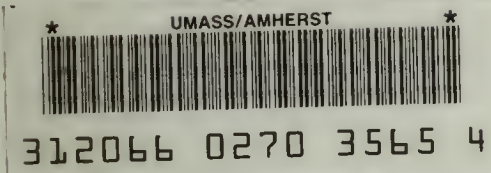


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# Policy Report: Restructuring the MBTA

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This report is largely based on work done by the Executive Office for Administration and Finance for the Special Commission on Forward Funding the MBTA established by Chapter 205 of the Acts of 1996. Contributors to that work included Lowell Richards, Catherine Frazer, William Kilmartin, James Powers, BJ Trivedi, Jonathan Davis and John Simon.

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# I. Executive Summary

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For twenty-five years, the Commonwealth has struggled to resolve the problem of the MBTA's financing. The most troubling aspect of its financial structure is the MBTA's receipt of its operating appropriation eighteen months after it begins to spend the operating dollars in question. Such a system creates an open-ended liability for the Commonwealth, which until the 1990s grew at double-digit annual rates. In Fiscal Year 2000, total Commonwealth support for the MBTA will exceed half a billion dollars for the second consecutive year. While awaiting appropriation, the MBTA funds its operations with Commonwealth guaranteed short-term notes and draws on the state's cash reserves, exposing the Commonwealth to serious market access and interest rate risk.

## Problems

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### The Financing Structure

The MBTA's financial problems are the result of a structure built on faulty foundations. Most prominent among the flawed assumptions that underpinned this structure was the belief that the MBTA would require only State capital assistance and modest local assessments to be self-sufficient, a gross underestimation of the costs of system expansion, and a lack of understanding of the degree to which cities and towns would support continued MBTA deficits. As these flaws came to light, successive Legislatures and Administrations attempted to remedy them with half-measures that only served to exacerbate the situation. In 1974, the Legislature agreed to pay half the MBTA's operating expenses. In 1980, Proposition 2 1/2 capped local assessment growth at 2.5%, further shifting costs of the MBTA to the Commonwealth. Yet the funding mechanisms created during the days of the El at the turn of the century remained in place.

Since 1918, Boston's mass transit system has had the ability to draw cash from the State Treasurer to fund current expenses. The concept then was that the State would assess all system losses to served cities and towns once it had calculated those losses. To avoid shutting down service in the interim, the transit system could fund the shortfall with State reserves. Since the cities and towns would reimburse the State for its expense, the advances did not need an appropriation. Rather, the transit system simply had to certify to the State that it had lost the amount being requested, thereby giving the State assurance it would be able to assess the cities and towns for the cost. Until 1964, the losses, though persistent, were a small percentage of the transit system's budget.

Once the losses escalated and the Commonwealth began to contribute to them, the nature of cash advances changed. They were not a stopgap measure to keep the MBTA trains running while the State collected the local assessment; rather they became the major source of MBTA cash. With losses surpassing half a billion dollars, the MBTA has no problem certifying that any cash it draws from State coffers will reimburse operating deficits. In essence, the Legislature had granted the MBTA an unlimited credit-line, funded ultimately by the General Fund.

In addition to cash advances, the MBTA also has the ability to issue short-term notes guaranteed by the Commonwealth to fund current expenses. Between 1975 and 1994, the amount of these notes and those issued by the Treasurer to fund the cash advances rose from \$125 million to \$605 Million. Since then, the Commonwealth has internally funded the MBTA's cash draws, basically borrowing from itself. Given the permanence of these borrowings, the term "short-term notes" is a misnomer. In fact, they are "evergreen" notes,

so-called because they *never* amortize, but are a permanent fixture of the MBTA's and the Commonwealth's respective balance sheets.

While currently the Commonwealth and the MBTA have little difficulty selling these notes or funding the MBTA cash draws, this has not always been the case. During the fiscal crisis in 1991, the MBTA had trouble rolling over a \$175 million note. If the MBTA had failed to do so, it would have needed to either default on the note or call on the Commonwealth to honor its guaranty and retire it with cash from the General Fund. In either case, the rating agencies would likely have downgraded the Commonwealth's debt, perhaps to junk bond status.

The outcome of this patchwork system is a financing structure that relies on State support to a greater extent than ever imagined. Financing practices that made sense for a system with limited public operating support have lost their rationale when applied to a system that is more than 75% publicly funded. This is particularly true, not to mention risky, with regard to the custom of borrowing short-term in anticipation of state support.

### **Long-Term Debt**

Aside from the MBTA's short-term borrowing, the Commonwealth also guarantees the MBTA's long-term debt, pays 90% of the debt service initially, and pays for the remaining 10% as part of its operating subsidy. The lack of accountability for its credit standing or debt service has encouraged the MBTA to borrow at exceedingly high levels. Between 1980 and 1999, the MBTA increased its debt outstanding from \$340 million to \$3.4 billion, an average annual increase of 13%. Debt service expenses have risen accordingly.

Increasing debt not only adds to the MBTA's fixed cost base for years to come. The MBTA often incurs its debt financing system expansion. Eventually such expansion results in higher operating costs for

the system as a whole. Without financial checks on unbridled extensions of service and increased capital spending, the MBTA can build large cost increases into its future cost structure, and has done so in the past. The result has been a historical inability to contain expenses.

### **Revenue and Ridership**

With the state providing unlimited financial support for the MBTA, the MBTA has had little incentive to maximize its revenue recovery. Until the establishment of the MBTA in 1964, revenue recovery as a percentage of total expenses for Boston's mass transit system remained at or above 70%. By 1991, it had fallen below 22% and is now at 25%. Fare revenue per trip dropped 27% relative to inflation between 1965 and 1991. Large fare increases occurred only three times in the last thirty-three years - 1968, 1980-81, and 1989-91. During the inflationary 1970s, fares fell 45.7% relative to inflation.

Relative to other comparable transit systems, the MBTA's fare level is clearly an anomaly. The average fare per unlinked trip for comparable transit systems<sup>1</sup> is 64% higher than the MBTA's. Only one of the seven comparable transit systems is within 20% of the MBTA's fares. Since 1982, comparable systems have raised their fare revenue per trip 48% relative to inflation while the MBTA has decreased fares 24%. Actual fare comparisons are equally as stark (see page 27).

Despite these low fare levels, MBTA ridership per vehicle miles has *fallen* at a rate greater than other comparable systems. Experience demonstrates that fares exert a limited influence on ridership. The MBTA estimates its price elasticity to be between -.10 and -.30, which is consistent with independent estimates and indicates a relative lack of sensitivity among MBTA riders to changes in fares. The MBTA's history indicates actual long-term elastic-

<sup>1</sup> Comparable transit systems used for this analysis are those of Atlanta, Baltimore, Chicago, Cleveland, New Jersey, New York, Philadelphia, and San Francisco, and Washington D.C.

ties may be lower. Following the 1980-1981 and the 1989-1991 fare increases, base system ridership returned to its pre-increase level within two years and commuter rail ridership suffered no loss.

Low fares erode the MBTA's incentives to target system investments where they will most effectively increase ridership. With fare levels covering only about a third of operating costs, attracting additional riders may actually *cost* the MBTA money. This is because even with debt service and overhead excluded, revenue per rider probably does not exceed the costs each rider imposes on the system or the marginal cost. If this is the case, the easiest way for the MBTA to reduce its deficits is to reduce ridership, an approach at odds with the goals of the system.

### **Assessments**

As the system has expanded beyond the original district - an expansion that has benefited from the purposeful elimination of any checks on its growth - the assessment structure has also become obsolete. Assessments were originally intended to charge communities by the amount of service they received, but now more than fifty communities with direct service pay no assessment. Increased parking capacity has made the boarding count measures used to gauge ridership useless. Many riders who board in one town live in another. While few can agree on the optimum assessment system, none doubt the existing one is overly complicated, based on inaccurate data, and incomprehensible to the lay person.

### **Other Systems**

Few large transit systems are free of financial pressures, but other comparable systems throughout the country have avoided the problems of the MBTA by maintaining revenue recovery levels at an average of 40% of total costs and using dedicated revenue sources to fill the remaining gap between own source revenues and expenses. Higher revenue recovery encourages both pru-

dent investment choices and efficient operations. All things being equal, transit agencies will seek to maximize ridership if fare revenue per rider exceeds marginal costs. Maintaining high revenue recovery also requires controlling costs, since there are political and economic consequences associated with fare increases.

Using dedicated revenue to subsidize mass transit further limits cost increases. Dedicated revenues set an upward limit on the amount of subsidy a transit agency can expect, forcing it to manage to that number. Transit agencies with higher percentages of their subsidy dedicated tend to have lower costs (See page 22).

Dedicated revenue has a further advantage over appropriated subsidies in that it allows transit agencies to plan for the long-term. Unlike an appropriated concurrent subsidy that is subject to annual Legislative debate, a transit agency can project a dedicated revenue source several years into the future. This is particularly important for mass transit due to its capital-intensive nature. Transit agencies funded on a prospective basis without dedicated revenue sources have found making long-term investment difficult. Such was the case for Philadelphia's SEPTA system in the 1970s and 1980s. Since then SEPTA has added a dedicated revenue source that funds 36% of its total costs. In doing so, SEPTA joined twenty-seven of the other top thirty transit agencies. Only Honolulu's and Boston's still have no dedicated revenue source.

Another benefit of dedicated revenue is it enables transit agencies to establish their own credit backed by their dedicated revenue stream. Among similarly sized systems, the MBTA alone does not have its own credit but requires a state guaranty to borrow funds. In some cases, credit ratings on transit agency bonds backed by dedicated revenue exceed those of the state's in which they are located. Even in cases where the transit agencies have lower ratings than their states, re-

moving mass transit borrowing from the state's balance sheet may improve the state's rating, thereby saving borrowing costs overall because states issue much more debt than their transit agencies.

## **Consequences of the Status Quo**

While reforming the existing MBTA financial structure offers many opportunities to strengthen the Commonwealth's financial position, failure to do so will result in progressively worsening problems. The MBTA's dysfunctional financial structure will eventually lead to exploding deficits resulting in a growing drain on the Commonwealth's operating budget and balance sheet. Such was the case during the 1980s, when State assistance for the MBTA grew at 13% per year and the authority acquired the moniker of "budget buster." The statewide financial crisis of the early 1990s deferred some capital spending and allowed for cost reductions and revenue enhancement efforts to take effect. However, capital spending now exceeds pre-crisis levels and recent service expansion will add significant new costs to operations. Increasing revenue above ridership growth is virtually impossible under the current structure.

If the structure remains unchanged, optimistic projections indicate the Commonwealth MBTA subsidy will be nearly \$800 million in 2005, a 7% annual growth rate (Over the last ten years, subsidy growth has averaged 5% due to rigorous cost control efforts imposed in the 1990s). More pessimistic projections suggest the Commonwealth subsidy could exceed \$850 million in 2005, a 9% annual growth rate. Under such circumstances, revenue recovery would fall to 20%. In either case, the MBTA subsidy will grow at nearly twice the rate of the overall budget.

## **Recommendations**

The Governor has recommended in the Transportation Bond Bill filed this past February replacing the existing MBTA financing structure with a prospectively funded, market driven structure that is consistent with the practices of similar transit agencies throughout the country. Doing so requires the following five steps:

1. To eliminate the market access danger posed to the Commonwealth by the MBTA's short-term debt, the Governor has proposed bonding out the existing short-term debt with fully amortizing long-term debt.
2. To replenish the cash reserves currently funding the MBTA's deficit and reconcile the Commonwealth's statutory books with Generally Accepted Accounting Principles (GAAP), the Governor has proposed establishing a funding schedule to fully eliminate the Commonwealth's internal borrowing on account of the MBTA cash draws.
3. To provide the MBTA its subsidies in the same year it spends them, the MBTA must either have its budget appropriated in advance by the Commonwealth or receive a dedicated revenue stream. Given the complexity and capital intensive nature of mass transit, the Governor has proposed eliminating existing MBTA subsidies and providing the authority with a dedicated revenue stream. This would give the MBTA the capacity for long-term planning and encourage proactive efforts to control costs and optimize service. A dedicated revenue stream would also limit the Commonwealth's liability for the MBTA. The Commonwealth is projected to appropriate \$555 million in Fiscal Year 2000 to support the MBTA, net of a one-time finance-related saving of \$23 million. In the future, the Commonwealth should dedicate 20% of its *existing* Regular and Motor Vehicle Sales Tax to the MBTA, an amount projected to be \$594 mil-



lion in Fiscal Year 2000. The sales tax is the most appropriate dedicated revenue source for the MBTA because its tax base correlates closely to MBTA expenses and area employment. The sales tax is also the most popular dedicated revenue source of other transit systems.

4. To simplify the relationship between the Commonwealth and the MBTA, encourage an appropriate balance between capital and operating expenses, and reduce overall borrowing costs, the Governor proposed the MBTA borrow using its own credit supported by the revenue streams available to it in the manner of other Massachusetts authorities and transit agencies nationwide.
5. The current assessment system should be restructured, simplified, and capped. The preferred way to restructure it would be to limit the total amount collected from assessments to a fixed number, and then simply allocate that number to district communities by the total population that lives within each community as a percent of the total population served by the MBTA, weighted for distance from the system's core.

The above recommendations would resolve a long-standing financial problem for the Commonwealth. They would also introduce economic incentives into the decision-making of the MBTA. In the end, the key success factor for achieving financial stability is controlling the long-term cost growth of the overall system. The Governor expects this proposal will put in place a financing framework with appropriate incentives that will encourage a continuation of current cost control efforts and balance operating and investment needs.

## II. Introduction

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For twenty-five years, the Commonwealth has struggled with the financing of the MBTA. In 1974 and 1980-81, dramatic reforms were implemented to resolve this problem, but to little avail. In 1987, the Senate Ways and Means Committee issued a report entitled "State Funding for the MBTA: The Silent Crisis." The report highlighted the complex financial relationship between the MBTA and the Commonwealth. Among the anachronisms of the financial structure the Committee called to task was the fact that the MBTA does not receive its state or local subsidy for operating costs until eighteen months after the subsidized period begins, using short-term notes and cash draws from the Commonwealth to fund itself in the interim. Since the publication of that report, many others concluded that some form of financial restructuring was necessary, yet the situation has remained unchanged.<sup>1</sup>

In pursuit of the broad goal of financial restructuring, the Governor's proposal first seeks to end the current practice of providing state and local appropriation for MBTA funding eighteen months after the MBTA has started to spend such funds. However, regardless of when the Commonwealth and the localities appropriate the MBTA's funds,

the MBTA also suffers from the lack of an equitable and economically efficient allocation of its financial burden, few formal cost controls, and limited incentives to increase operating efficiency or integrate its capital and operating spending into a long-range plan. Failure to address any one of these shortcomings in the financial structure could put at risk whatever other reforms the Legislature enacts. Without long-term cost controls and the capacity to balance operating and capital needs into the future, the MBTA will eventually approach financial crisis, as it has three times before in its thirty-five year life. The growing debt burden resulting from recent and planned system expansion makes this all the more imminent. Failure to re-allocate the financial burden of the MBTA more equitably will also undermine reform, as those aggrieved by the current system might seek redress through narrow approaches that will inflict unintended consequences. Such actions in the past precipitated many of the problems faced today.

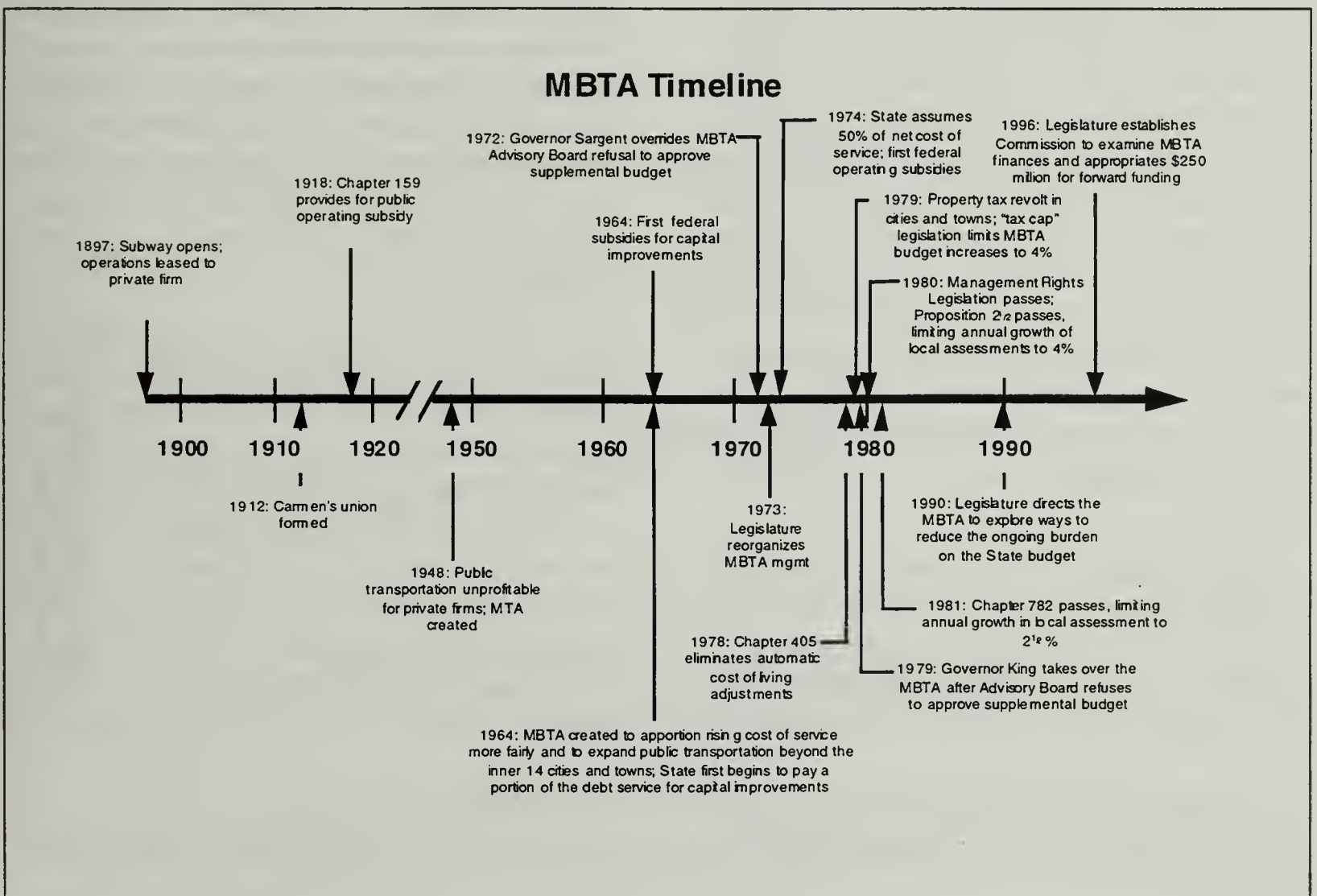
<sup>1</sup> Chapter 653 of the Acts of 1989 required the MBTA to complete a comprehensive study of its financial structure with the goal of moving toward forward funding. Chapter 60 of the Acts of 1994 created another Special Commission to study the Financing of the MBTA. Chapter 205 of the Acts of 1996 mandated still another study of all aspects of MBTA Financing.

# III. The Current Financial Structure and Its Problems

## A. History

The MBTA's existing financial structure is not the result of a single, coordinated design. Rather it has evolved over the thirty-five years since the Commonwealth restructured the old MTA in 1964. The MTA had proven unable to be financially self-sufficient, as had been originally hoped when the Commonwealth created it in 1948. The private bus and commuter rail companies serving the suburbs also were experiencing insurmountable financial difficulties. To avoid the severing of mass transportation service between Boston and its suburbs, the State needed to act.

As the situation approached a crisis level in 1964, the United States Congress passed the Urban Mass Transportation Act, providing mass transportation capital funding assistance for up to two-thirds of capital expenses. With the prospect of two to one capital matching funds from the federal government, the Legislature agreed to take over the struggling commuter rail and suburban bus lines, combining them with the MTA to create the MBTA. The Legislature would fund 90% of the new authority's future and existing debt service, leaving the operating costs to be paid through fares and assessments on the now enlarged MBTA district communities. The new legislation also reworked the assessment structure to address



complaints of inequity. Yet there was an assumption that future assessments would be “modest.”<sup>1</sup> To police cost increases, the Legislature established an Advisory Board made up of member communities whose votes were weighted by the amount of the total assessment each paid. The concept was the large fixed costs of mass transportation were the key factor in making mass transportation unprofitable. If the Commonwealth and federal government covered those expenses, the ridership could bear the burden of the operating costs.

Within a decade, this concept proved fatally flawed. During the 1960s, MBTA operating costs consistently outpaced inflation. From 1966 to 1971, MBTA losses and therefore assessments to communities more than doubled.<sup>2</sup> The Alviani report of 1990 attributed much of the blame for the increased costs to rising wage rates at the MBTA, which were subject to automatic cost of living adjustments.<sup>3</sup> However, the MBTA was also rapidly increasing service during this period. While the Commonwealth and federal government paid for capital costs, such service expansion resulted in increased operating costs as well. The inability of the MBTA to keep fares at a level sufficient to cover even these expenses exposed a serious problem with the financing structure. System expansion may have seemed relatively costless due to the fixed cost subsidies, but eventually it generated operating losses to be borne by the cities and towns.

In 1972, the cities and towns refused to accept the continual cost increases, and through their Advisory Board rejected the MBTA’s request for a supplemental budget. The timing could not have been worse. The State had just completed an in-

tense reevaluation of its transportation policies known as the Boston Transportation Planning Review (BTPR), undertaken after the 1969 “Highway Revolt” by suburban communities who wanted to limit new highway construction. After eighteen months of study, the review team recommended that no new highways be built within Route 128. Instead, the study proposed expanding mass transportation. The Governor at the time, Francis Sargent, agreed. Therefore, continuing mass transportation funding was essential. The Governor overrode the Advisory Board’s rejection of the MBTA’s supplemental budget.

The following year, the Legislature reorganized the MBTA’s management by making the terms of the Board coterminus with that of the Governor. To ease suburban objections to the system expansion suggested by the BTPR, the Legislature also exempted stations built after July 1, 1973 from the boarding counts used in the assessment calculation. In 1974, the Legislature agreed to pay 50% of the system’s operating costs. That same year, the federal government also began providing operating subsidies to mass transportation authorities, lessening the burden on the State’s budget for the time being.

Despite, its new sources of revenue, the MBTA failed to achieve financial stability. Inflation during the 1970s pushed up costs, particularly wages, yet fares did not keep pace. In real terms, fares *declined* 46% between 1970 and 1980.<sup>4</sup> In 1979, the events of the early 1970s were repeated. A property tax revolt in the cities and towns resulted in legislation that limited the growth of the MBTA’s budget to an annual increase of 4%. When the MBTA did not meet this target, it shut down for a day in December 1980. To remedy the situation,

<sup>1</sup> Report of the Special Commission Established by Chapter 60 of the Acts of 1994, p. 12

<sup>2</sup> Catalyst for Economic Growth: Funding of Public Transportation in Massachusetts, Joseph Alviani, Commonwealth of Massachusetts, April 1990, p. 15

<sup>3</sup> Alviani, p. 15

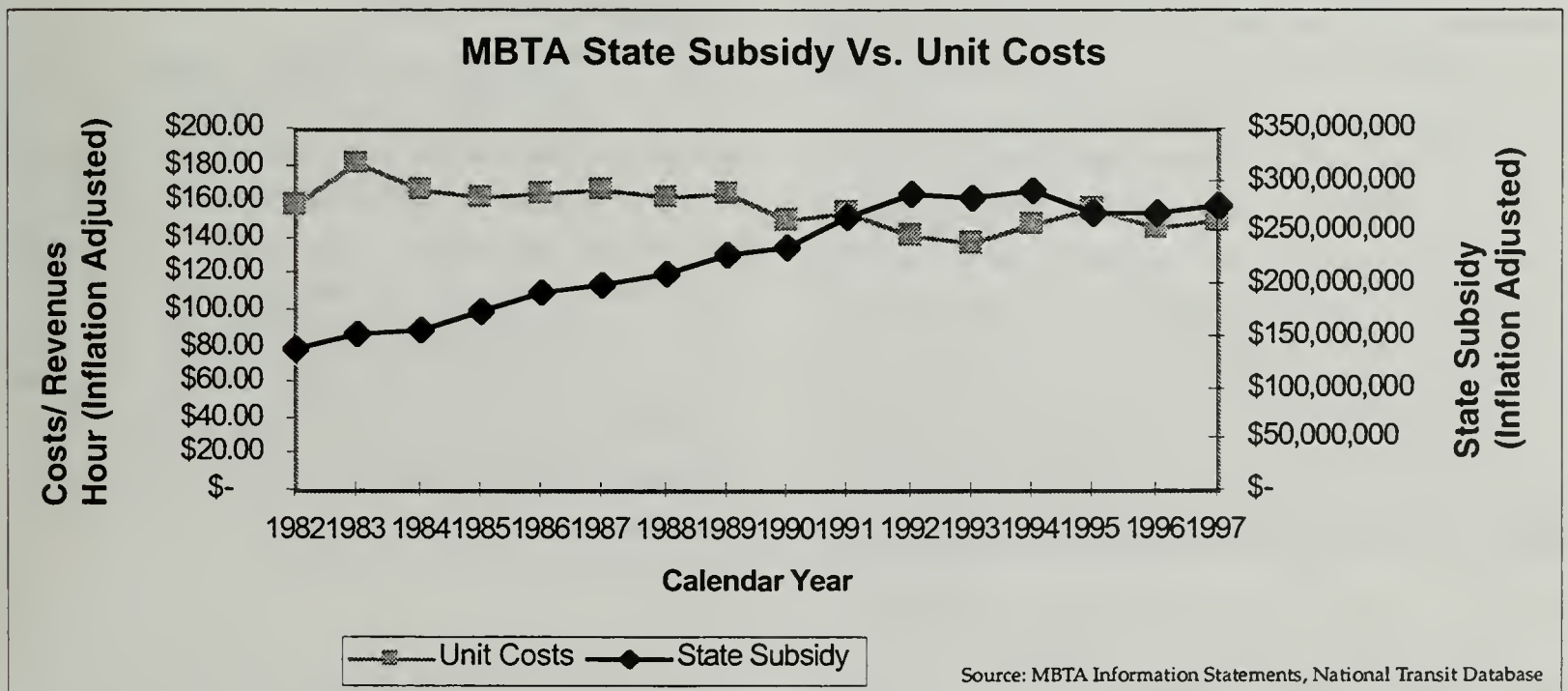
<sup>4</sup> Big City Transit, Ridership, and Deficits: Avoiding Reality in Boston, Jose Gomez-Ibanez, Journal of the American Planning Association, Winter 1996, vol. 62, No. 1, p. 40

the Legislature passed Chapter 581, which strengthened the MBTA's management rights, applied the 4% budget cap to the assessments on the cities and towns, and once again reorganized the MBTA Board. The following year, Chapter 782 of the Acts of 1981 limited assessment growth to 2.5% so that it would be in line with the property tax growth limits imposed by Proposition 2 1/2.<sup>5</sup>

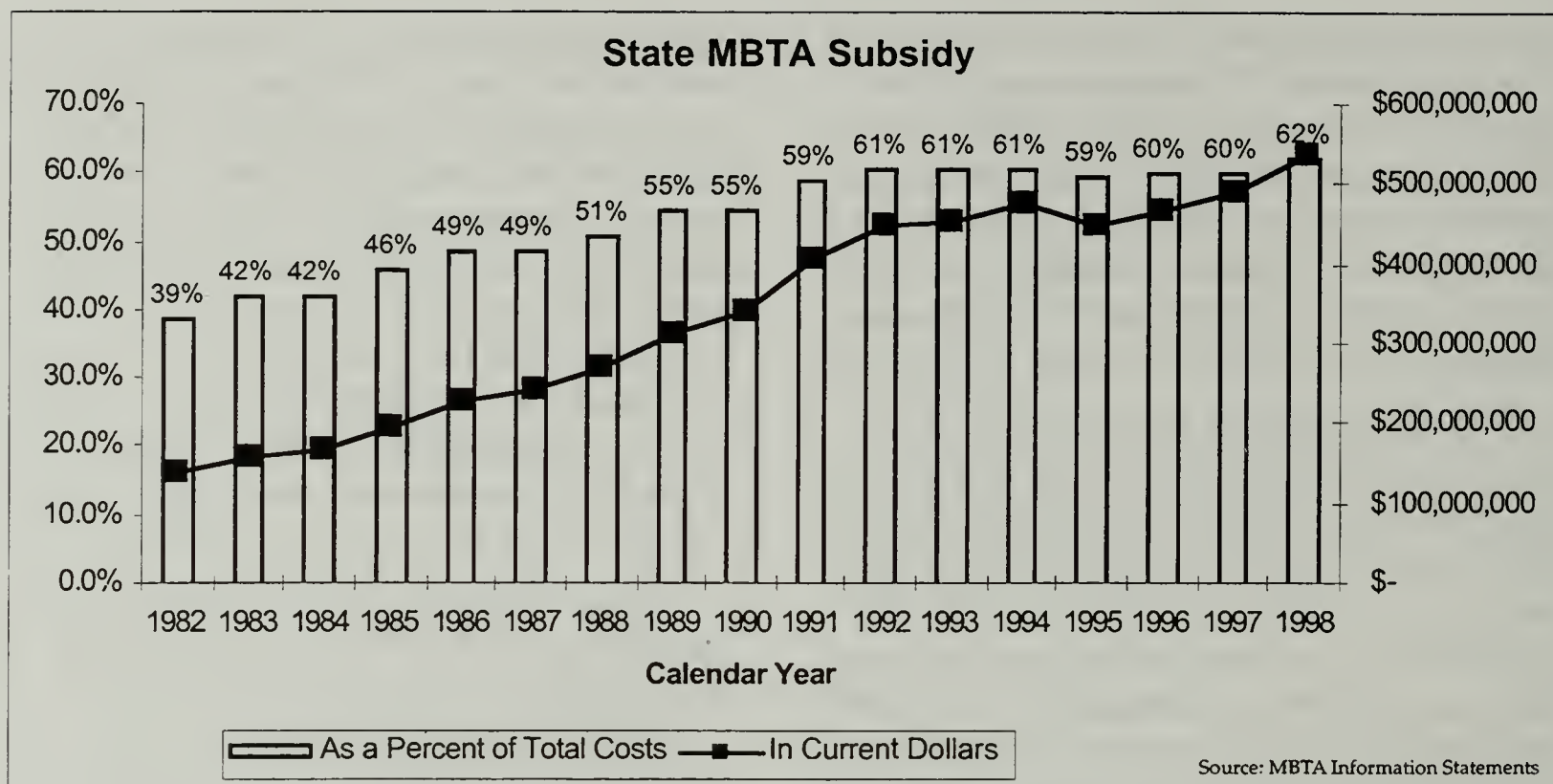
The management rights legislation slowed the MBTA's unit cost growth during the 1980s, as the chart below shows. However, the assessment cap and dramatic declines in federal operating assistance greatly increased the State's share of total costs. Moreover, the economic boom of the 1980s encouraged rapid system expansion, which mitigated the effects of the 1980 cost controls. Another complicating factor that had an effect toward the end of the 1980s was the Central Artery/ Ted Williams Tunnel project, which required further system expansion to allay concerns about the environmental impact of the project. In 1987, new Commonwealth regulations promulgated under the Massachusetts Environmental Protection Act

("MEPA") limited the ability of the MBTA to raise fares. Between 1982 and 1992 total state assistance grew from \$138 million to \$448 million, a 224% increase in nominal terms and a 109% increase in real terms. During the same period, the State's share of total MBTA costs increased from 39% to 61%.

The outcome of this patchwork system is a financing structure that relies on State support to a greater extent than ever imagined. Financing practices that made sense for a system with limited public operating support have lost their rationale when applied to a system that is more than 75% publicly funded. This is particularly true, not to mention risky, with regard to the custom of borrowing short-term in anticipation of state support. As the system has expanded - an expansion that has benefited from the purposeful elimination of any checks on its growth - the assessment structure has also become obsolete.



<sup>5</sup> Proposition 2 1/2 was a referendum passed in 1980 limiting property tax increases to 2.5%



## B. MBTA Budgeting

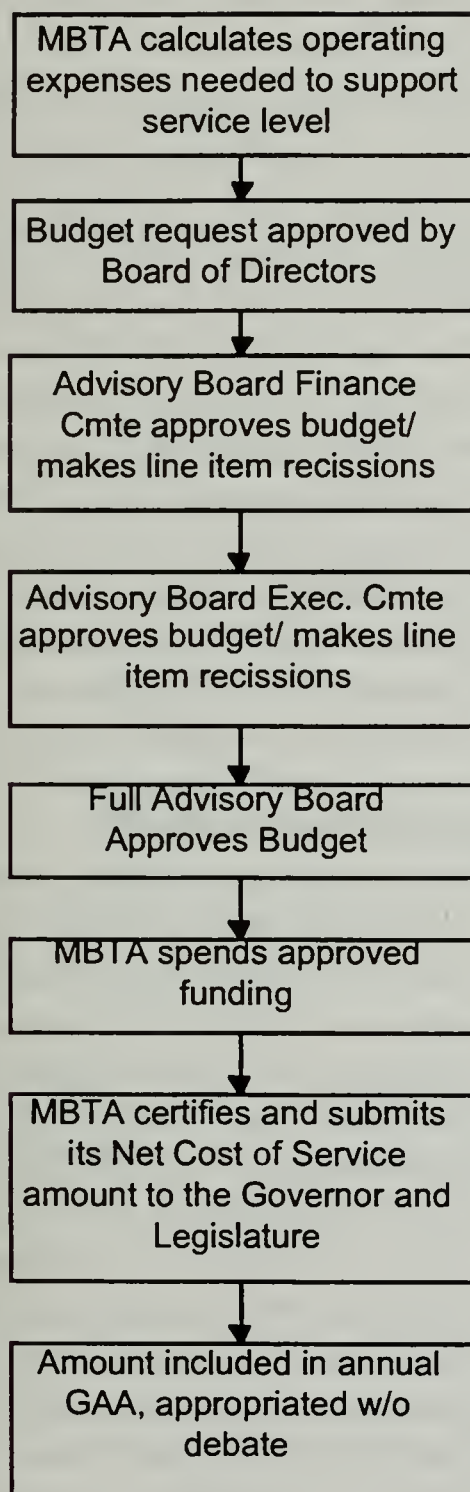
The Current MBTA budget process reflects the piecemeal financial structure that has been implemented over time. The MBTA receives three different appropriations: one for operations, one for debt service, and one for commuter rail. These appropriations are respectively eighteen months in arrears (for operating subsidies), twelve months in arrears (for commuter rail subsidies), and current (for debt service payments). Only one of these appropriations ties to the MBTA's own budget, which means the total of MBTA State assistance listed in any one year's budget is not the total subsidy for that particular fiscal year, or even any one twelve month time period. To assess the process of budget-

ing for the MBTA, one must view it from the perspective of both the MBTA and the State.

### 1. As Seen By the MBTA

The MBTA develops an internal budget for each fiscal year ending June 30, a timeframe corresponding to the State's fiscal year ending on June 30. Before approval, this budget must obtain the acceptance of the Board of Directors, the Advisory Board Finance Committee, the Advisory Board Executive Committee, and the full Advisory Board. The MBTA begins the process in December, providing the Advisory Board with a budget in Mid-April. The final approval occurs before the beginning of the MBTA's fiscal year on July 1.

## The MBTA Budget Process from the MBTA's Point of View



The expense side of the MBTA's budget is relatively straightforward. The MBTA does not budget by service. Rather, its budget is at the line item level, similar to the way departments in the Executive Branch budget. However, the MBTA budgets on an accrual basis while the Commonwealth budgets on a cash basis.

To determine revenues, the MBTA must analyze its five different sources of funds:

- Fares and Other Direct Revenue
- Federal Subsidies
- State Debt Service Assistance
- Local Assessments
- State Operating Assistance

The MBTA can project revenue from fares and other direct sources based on fare levels and expected ridership. Legislation enacted in 1990 requires the MBTA to cover one third of operating expenses with own source revenues, including fares, parking, fees, and advertising revenue. Existing MBTA policy further mandates that fares alone exceed one third of these operating expenses. However, the definition of MBTA operating expenses *excludes* the more than a third of total MBTA expenses that cover fixed charges such as debt service. Even so, between 1986 and 1994, the MBTA failed to achieve both benchmarks.

The federal government determines the level of federal transit subsidy every year through its own budget process, guided by the transportation authorization legislation renewed every five years. However, federal operating subsidies have declined to such an extent that significant changes in federal funding would have a limited effect on the MBTA's budget. In 2000, federal operating assistance will be less than 1% of the MBTA's total budget.

The MBTA determines its debt service based on the borrowing needs outlined in its five-year capital plan. All capital projects must be in the plan as well as the Program for Mass Transit, a twenty-year capital spending blueprint that the Advisory Board approves. Funded projects also need authorization from the Legislature through a transportation bond bill. The Commonwealth pays 90% of the debt service cost through concurrent appropriations, while the MBTA pays the remainder through its operating budget. However, this cost will eventually be part of the Commonwealth's general assistance subsidy because the Commonwealth funds the MBTA's operating budget deficit.

Since 1981, local assessments are always 2.5% greater than the previous year's assessments. The State collects these assessments through cherry sheet offsets. Since the assessments cover expenses incurred during the prior calendar year, the State borrows to provide funds during the current fiscal year and offsets this borrowing expense by reducing the amount of the assessment paid to the MBTA. This reduction is just a paper transaction, for as with the MBTA's share of debt service, the State eventually funds any difference between what the MBTA collects through its other sources of revenue and its total expenses.

The State pays for the MBTA's additional operating expenses through two appropriations: general assistance and commuter rail. The latter theoretically reimburses the MBTA for deficits incurred the previous fiscal year by the commuter rail system operated through contiguous Regional Transit Authorities (not all RTAs statewide). However, in reality this number has remained relatively constant at slightly less than \$16 million for the past five years, while the commuter rail system has continued to grow outside the district. According to the MBTA, the number no longer applies to actual expenses. Included in the commuter rail appropriation from the State is

funding for the suburban bus program. This money is not a reimbursement but a prospective subsidy. The MBTA pays roughly \$2 million annually to private bus companies that provide service to suburban communities.

Once the MBTA calculates expenses and revenues from the above sources during the calendar year, it determines the amount the Commonwealth must pay to cover the net cost of service. The Commonwealth appropriates the funds at the beginning of the next fiscal year six months later. As we shall see, this too is a paper transaction since the transfer of money has little to do with the Legislature's appropriation. Thus, for the purposes of developing its own budget, the intricate timing of the funding is not an issue. The MBTA need only determine the difference between its fixed sources of funds and its expenses, and charge this to the Commonwealth.

## **2. As Seen By the Commonwealth**

The MBTA's budget process bears little relation to the State's, even though the State subsidy comprises nearly 60% of the MBTA's revenues. The area where there is the greatest intersection between the MBTA's budget process and that of the Legislature is in funding for debt service. The Legislature appropriates 90% of the MBTA's debt service prior to the beginning of the fiscal year. The MBTA pays the remainder out of its operating budget, which the Commonwealth subsidizes eighteen months later in the manner described above. The debt service figures in the MBTA's calculation of its net cost of service do not match the Commonwealth's budgeted debt service appropriation because the net cost of service calculation is based on the calendar year and the debt service is budgeted on a fiscal year basis. The Commonwealth cannot reduce its MBTA debt service burden through its own budget process. Having authorized the spending through a Transportation Bond Bill, it must accept the MBTA's capital spending decisions.



This is still more control than the Legislature has over Operating Spending. As noted above, the Legislature has no voice in the determination of the MBTA's general assistance subsidy. It is simply a function of actual expenses minus fares, federal assistance, debt service assistance, and assessments. By the time the Legislature sees the number, the MBTA has already spent the money in question. Failure to appropriate would result in an illegal deficit for the Commonwealth, as discussed in the next section.

The rationale for this unique funding mechanism goes back to 1918 and the El, when the Commonwealth was simply a conduit for assessments collected from the district communities. To prospectively fund the MBTA under such a scenario, the state would have needed to collect an estimated amount from the cities and towns before the actual deficit was known. At the end of the year, the state would then have had to reimburse any surplus or assess additional funds depending on whether the MBTA was over or under budget. One could easily imagine how complicated the system could get if the MBTA exceeded its budget for just a few years in a row: assessments would swell to cover several years worth of deficits. In the interim, the MBTA would still need some other form of funding, much like the cash advances and short-term debt it uses today. With the capping of assessments at a fixed rate of growth each year and the addition of State operating funding, the rationale for the system no longer applies. In fact, the same reasoning argues for a dramatic change to prevent the continued accumulation of deficits on the State side, as evidenced by the MBTA's short-term borrowing and the State's draws from its cash reserves.

### **C. Cash Advances**

The MBTA funds its cash deficit in two ways: through cash advances from the Treasurer's Office financed by Commonwealth Transit Notes or cash reserves and from its own short-term borrowing.

Appropriations by the Legislature reimburse portions of this deficit annually, but over the course of the past thirty-three years, the accumulated deficits have grown considerably.

The ability of the MBTA to draw on the Commonwealth's cash reserves without an appropriation originated in the days of the El, predecessor of the MTA and the MBTA. The concept then, as in 1948 and 1964, was that the State would assess losses to served cities and towns once it had calculated those losses. To avoid shutting down service in the interim, the transit system could fund the shortfall with State reserves. Since the cities and towns would reimburse the State for its expense, the advances did not need an appropriation. Rather, the transit system simply had to certify to the State that it had lost the amount being requested, thereby giving the State assurance it would be able to assess the cities and towns for the cost. Until 1964, the losses, though persistent, were a small percentage of the transit system's budget.

Once the losses escalated and the Commonwealth began to fund them, particularly following the capping of assessments, the nature of cash advances changed. They were not a stopgap measure to keep the MBTA trains running while the State collected the local assessment, but the major source of MBTA cash. With losses surpassing half a billion dollars, the MBTA has no problem certifying that any cash it draws from State coffers will reimburse operating deficits. In essence, the Legislature had granted the MBTA an unlimited credit-line backed by the General Fund.

As the chart below indicates, the MBTA rapidly increased its advance amounts once the State operating funds became available in 1974.

### State Treasurer Cash Advances



Source: MBTA Information Statements

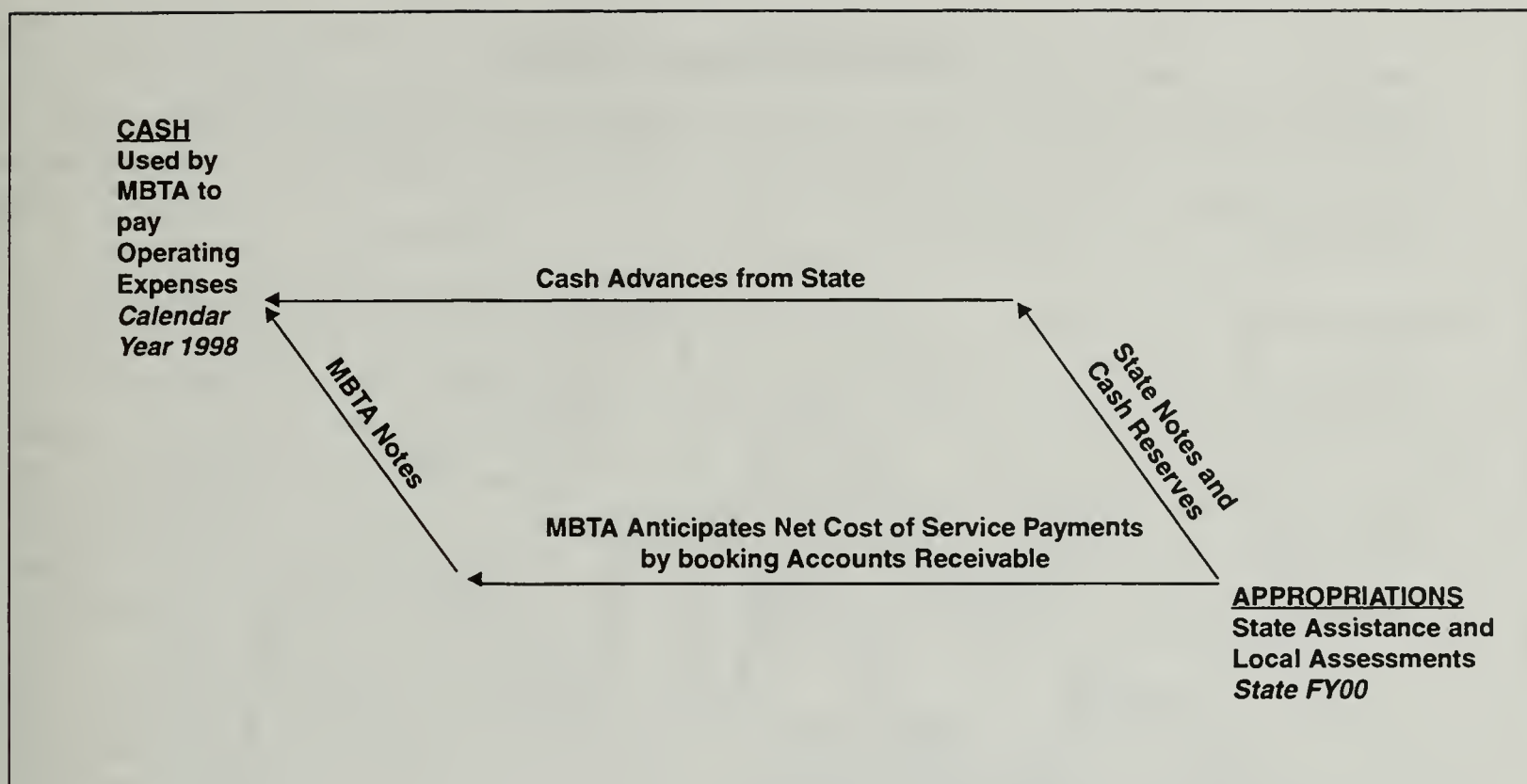
To fund the advances until appropriation, the Legislature had authorized the Treasurer's Office to issue short-term notes. In 1992, the Treasurer's Office capped the amount of its short-term transit debt at \$240 million, using its cash reserves to fund the difference. In 1997, the Treasurer's Office began funding the whole amount with Commonwealth cash reserves. In fiscal year 2000, the amount of these unappropriated advances, including those advanced in 1999 that were in excess of the fiscal year 1999 appropriation, should equal approximately \$500 million.

## D. MBTA Debt

Since 1964, MBTA debt has expanded dramatically. This is true for both long and short-term debt, though for different reasons. The rising debt burden of the MBTA, all of which is guaranteed by the Commonwealth, adds increased urgency to the need to reform the MBTA financial structure. At best the existing structure increases borrowing costs for both the Commonwealth and the MBTA due to its complexity; at worst it exposes the Commonwealth to serious financial risks.

### 1. Short-Term Debt

Just as the MBTA can draw cash from the Treasurer's Office to fund current expenses, it can also issue Commonwealth guaranteed short-term notes to fund its daily cash needs or its net cost of service. In essence, these notes differ from the cash

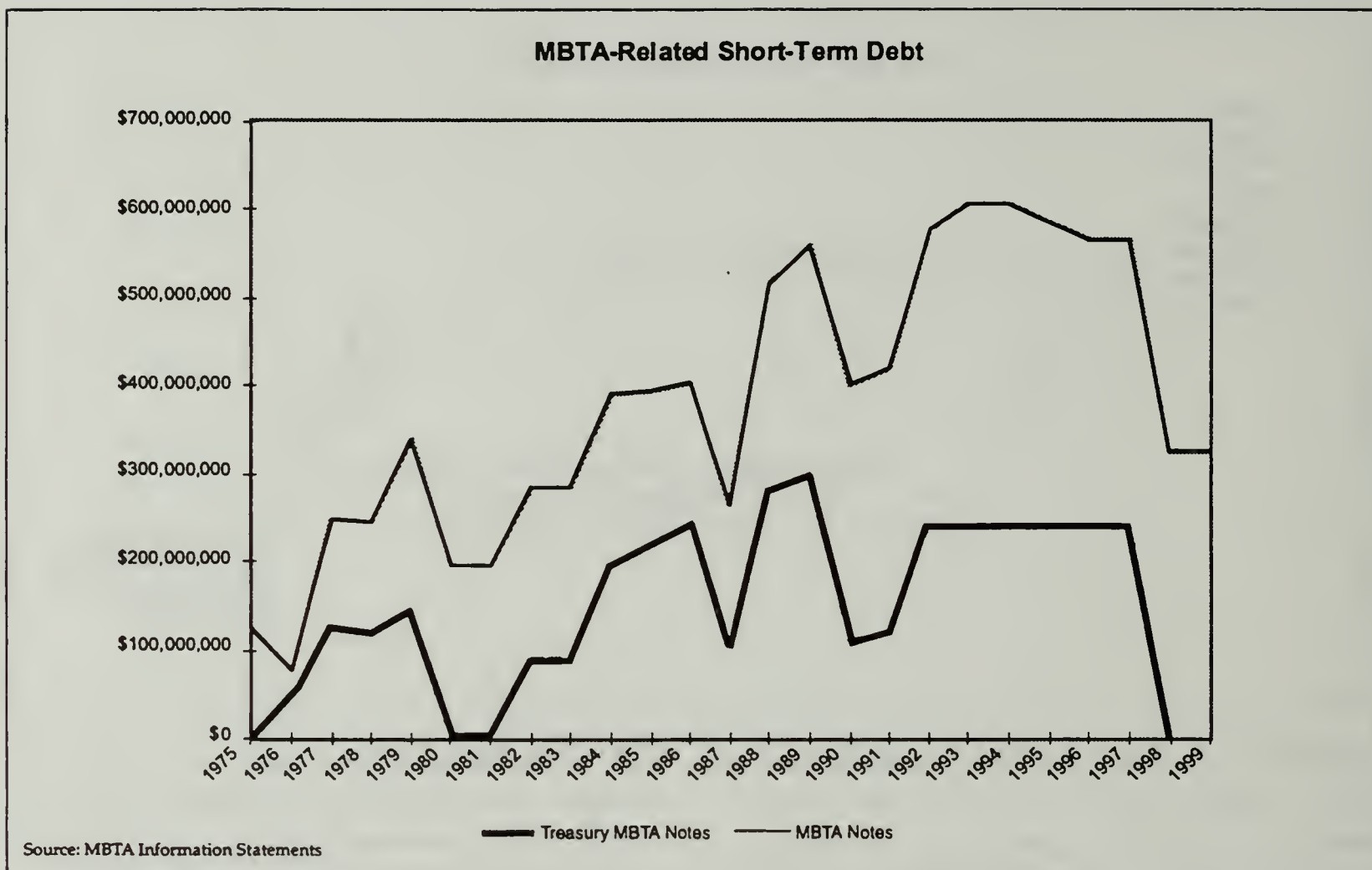


advances only in terms of who provides the actual cash. In either case, the Commonwealth is ultimately responsible for repayment. As the chart below illustrates, the Treasurer's Transit Notes and the MBTA short-term borrowings are parallel financing mechanisms to fund current operations.

The 1987 Senate Ways and Means Committee report referred to this relationship as the "Funding Cycle" of the MBTA, since the MBTA is perpetually borrowing new money even as it receives appropriated and assessed funds to retire its old debts.

Given the permanence of these borrowings, the term "short-term notes" is a misnomer. In fact, they are "evergreen" notes, so-called because they *never* amortize, but are a permanent fixture of the MBTA's balance sheet. Until recently, their general trend has been to steadily, and at times swiftly, increase, rising to \$605 million before being reduced over the last few years due to the Commonwealth's strong cash position. When we account for the amount the Commonwealth borrows internally from its own cash reserves, the total exceeds \$800 million.

The fact that this debt never amortizes creates a certain amount of anxiety in the financial community. Given the growing capital needs of the Commonwealth, long-term debt unrelated to any assets is a difficult burden to bear. Moreover, the fact that this debt must be re-issued every year creates the potential for market access problems. If in one year the market cannot absorb \$325 million in MBTA Commonwealth Guaranteed Notes, the credit rating of the Commonwealth will suffer. Meanwhile, the General Fund will need to immediately provide the funding to pay off the notes or provide working capital for the MBTA to avoid default or a stoppage. During the fiscal crisis in 1991, the MBTA had difficulty rolling over a \$175 million note. If the MBTA had failed to do so, it would have needed to either default on the note or call on the Commonwealth to honor its guaranty and provide \$175 million from the General Fund to retire it. In either case, the rating agencies would likely have downgraded the Commonwealth's debt, perhaps to junk bond status. The Commonwealth currently bears this risk twice a year, as the MBTA issues short-term notes of \$165 million in the winter and \$160 million in the fall. The Commonwealth also must worry about de-



pleting its cash reserves and needing to borrow an additional \$500 million it currently funds internally.

The use of short-term debt to fund current operations poses other problems for the Commonwealth today and creates serious risks for the Commonwealth in the future. Currently, the Commonwealth spends roughly \$10-\$15 million in unnecessary interest expense annually to fund this short-term debt. If interest rates should rise, so will this cost. Given the financial community's view of this "evergreen" debt, its existence adds costs to the Commonwealth's and the MBTA's overall borrowing costs. Quantifying these costs is difficult, but assuming the short-term debt prevents the Commonwealth from being upgraded by the rating agencies, the cost could be as high as 25 basis points on \$1.3 billion in debt issued annually. In five years, this could accumulate to more than \$10 million annually.

## 2. Long-Term Debt

Since 1980, the MBTA's long-term debt has grown substantially, from \$340 million to more than \$3.4 Billion. Debt service is the fastest growing item in the MBTA's budget, driven by the need to maintain an ever-increasing system. As the 1980's progressed, the federal share of mass transit capital expenses dropped to the point that the proportion of local funding for capital is now greater than the federal portion. Moreover, since most MBTA debt is thirty-year debt and renovations of system expansions are often required before that time, service expansion sometimes puts pressure on the debt burden not once but twice.

Several factors encouraged greater expansion in the 1980's. Federal legislation (American with Disabilities Act, the Clean Air Act) required further system investments. Environmentalists advo-

cated for a larger mass transit system. As noted previously, the Legislature, Governor and communities were receptive to calls for increased system investment to answer the problem of unfettered highway construction.

Most recently, increased expansion has resulted from the ongoing requirements of the 1990 Clean Air Act and the Central Artery/Tunnel Memorandum of Understanding the State entered into that year. The latter was to mitigate the effects of increased traffic that might occur during construction of the Central Artery/Tunnel project. The MBTA will spend roughly \$3 billion in capital expenses on Central Artery mitigation and Clean Air Act projects, of which \$2 billion will be State-supported bond funds.

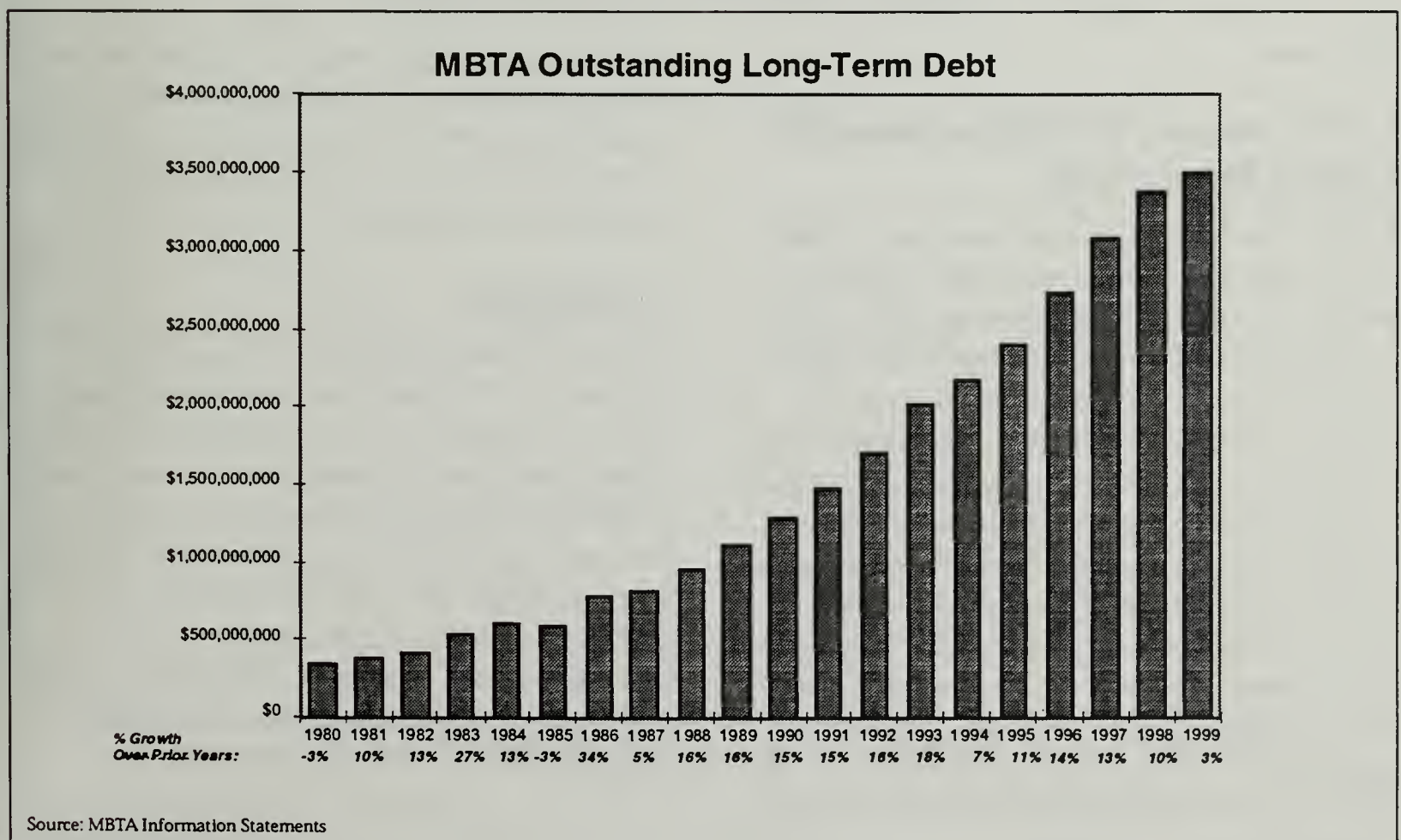
While the demands for MBTA capital spending have been great, internal checks on MBTA debt growth have been almost non-existent. The Commonwealth guaranty of MBTA debt means the

Authority's ever increasing debt burden does not curtail its ability to borrow even more. Furthermore, the Commonwealth subsidizes 90% of the MBTA's debt service costs, so there is little benefit to controlling capital costs - if debt service declines, so does subsidy revenue.

Since 1994, the MBTA has imposed an administrative \$1.5 billion rolling five year cap on capital spending. While this cap allows the MBTA alone to spend on average one-third the amount of the entire Commonwealth capital budget, it does hold out the possibility of controlled capital spending. In 1999, the MBTA completed the first rolling five-year period within the confines of the cap.

### 3. No Formal Cost Controls

Looking beyond symptoms to causes, the massive short-term term debt of the MBTA results from its accumulation of deficits over a thirty-five year period. To end the need for the MBTA to fund its operations with debt, the MBTA must maintain financial stability. This requires incentives to



check the growth in MBTA deficits, incentives that do not exist in an atmosphere of unlimited funding potential from the State. Implicit in the existing structure is the concept that the MBTA is exempt from the budget pressures to which all other agencies and authorities of State government are subject.

While in the past few years deficits have plateaued due to strong management, cost control will be difficult to maintain as long as the MBTA has no formal need to balance its financial needs against its resources. This is true of long-term borrowing as well. Current expansion plans will put more service on-line, increase the net cost of service, and require a greater proportion of budgetary funding for debt service. In FY97, State debt service assistance exceeded operating assistance for the first time since 1974. This upward trend in debt service requirements will continue beyond the end of the decade, putting pressure on the MBTA to increase overall spending. Appropriate formal cost controls are required to counteract this pressure, giving the MBTA the ability to manage its expansion within the framework of budget discipline.

## **E. The Complex MBTA/Commonwealth Subsidy Relationship**

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Receiving subsidy in arrears, borrowing to fund current operations, and having the unlimited ability to draw on state reserves are symptoms of a dysfunctional financial structure at the MBTA. These problems stem from thirty-five years of changing financial conditions, exacerbated by the piecemeal solutions put in place to resolve them. As a rule, past changes in the financial structure such as the addition of State operating assistance and the capping of local assessments, addressed only symptoms of the system's underlying financial problems, not their causes. In undertaking these issues anew, the Governor's approach has been to be as comprehensive as possible, thereby avoiding pushing problems from one part of the financial structure to another.

The complex subsidy and debt relationship between the Commonwealth and the MBTA has allowed both costs and debt to rise uncontrollably. The ability of the MBTA to draw funds from the Treasurer's Office without limit and to borrow both short-term and long-term on the Commonwealth's credit removes powerful internal incentives to control operating and capital expense. The separation of debt service subsidies from operating subsidies encourages the MBTA to view the two expenses in isolation, instead of as pieces of the same financial structure. From the MBTA's standpoint, avoiding capital costs does not provide more funds for operations. The level of complexity inherent in the structure means significant cost increases will evade detection until after the MBTA has spent any funds in question.

The complexity of the structure confuses financial markets as well as fiscal monitors, increasing the borrowing costs of both the MBTA and the Commonwealth. A simplified structure would reduce the "opacity" associated with both entities' balance sheets and make their debt more attractive. Thus buying MBTA debt would not require an understanding of the finances of the whole Commonwealth, and buying Commonwealth debt would not involve the perhaps more difficult task of learning the relationship between the Commonwealth and the MBTA.

## **F. Revenues**

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While the EL and the MTA were never able to make a profit, fare revenues did cover the vast majority of their costs. The revenue recovery ratio (direct revenue as a percentage of total costs) for the MTA was above 70% through the 1950s and 69% as late as 1963. As noted previously, with the State committed to paying for 90% of the new MBTA's fixed charges, the originators of the MBTA envisioned it would be able to fund almost its entire operating expenses from own source revenues.

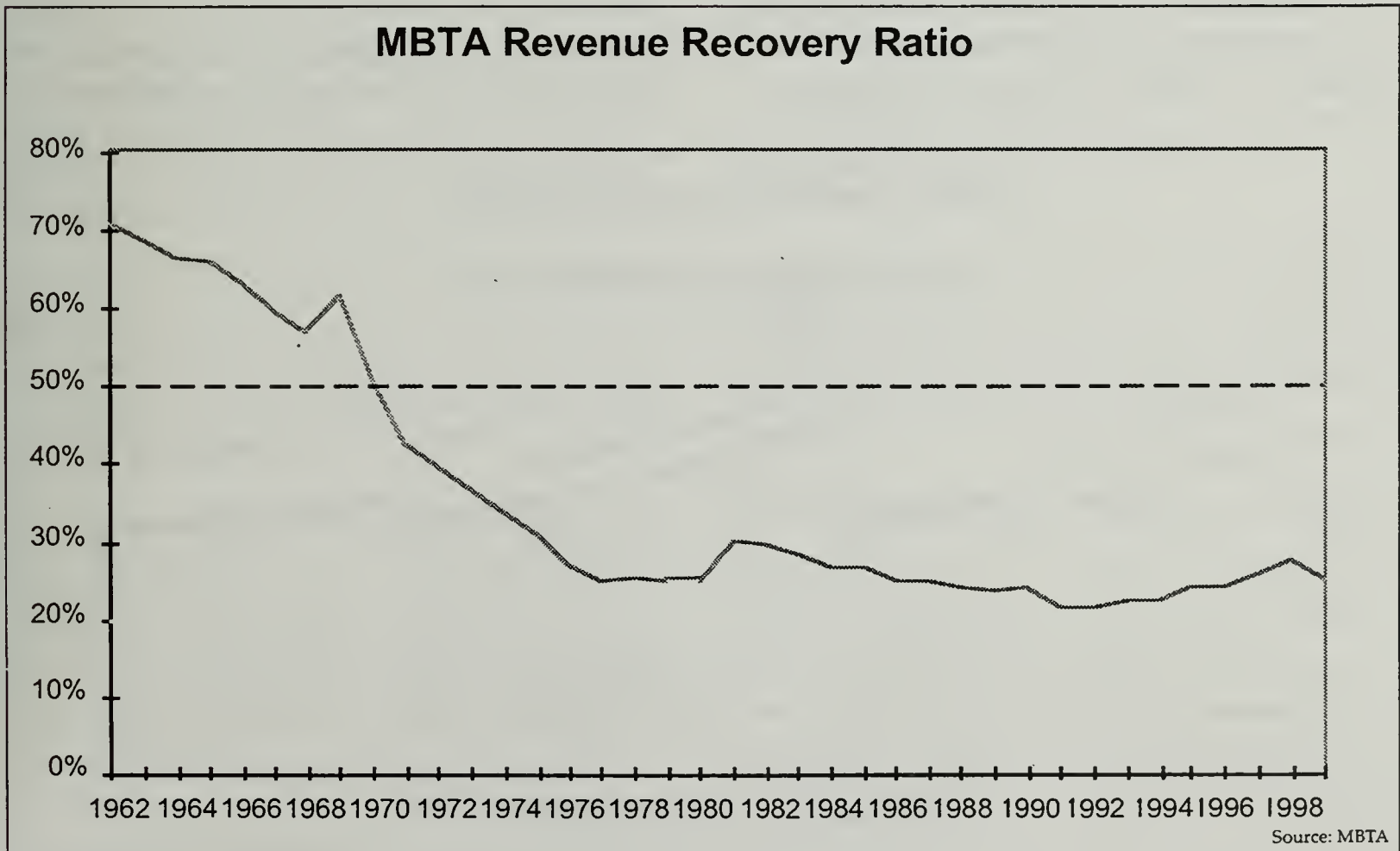
Two factors contributed to making this vision untenable. Rising costs associated with system expansion and generous labor agreements caused the base against which fares are measured to increase geometrically. At the same time, in real terms fares have actually decreased. Between 1965 and 1991, fare revenue per trip fell 27% relative to inflation. Large fare increases occurred only three times in the last thirty-three years - 1968, 1980-81, and 1989-91. During the inflationary 1970s, fares fell 45.7% relative to inflation.<sup>1</sup> The result is that the MBTA's revenue recovery ratio fell to 22% before recovering in recent years.

Significant discounts available to some riders further depress MBTA fare revenues. Senior citizens and people with disabilities pay \$.15 to \$.20 to ride the bus and subway. Students pay half price. The MBTA estimates 15% of MBTA riders

receive these discounts, reducing fare collections by \$25 million. The theory behind such steep discounts, aside from the laudable assistance they provide citizens in need, is that seniors, the disabled, and students tend to ride the system during non-peak periods, thereby imposing a very small marginal cost on the MBTA.

Despite these low fare levels, fare revenue has steadily increased since 1975 due to increased ridership. While some of the credit for increased ridership deservedly belongs to low fare levels, other factors play a greater role. An analysis by Professor Jose A. Gomez-Ibanez of Harvard University indicates employment growth, regional income, and service expansion are far more important variables than fare levels in determining ridership.<sup>2</sup> During the 1970s, when fares decreased the most relative to inflation, ridership increased only 0.2%. During the 1980s fares rose 6% relative to inflation, but because the system increased 38.4% in terms of vehicle miles and the

### MBTA Revenue Recovery Ratio



Source: MBTA

<sup>1</sup> Gomez-Ibanez, p. 34

<sup>2</sup> Gomez-Ibanez, p. 38

employment grew 7.1%, ridership increased 11.8%, almost 60 times more than in the previous decade. Increased parking facilities also helped increase ridership during the 1980s despite the fare increases.

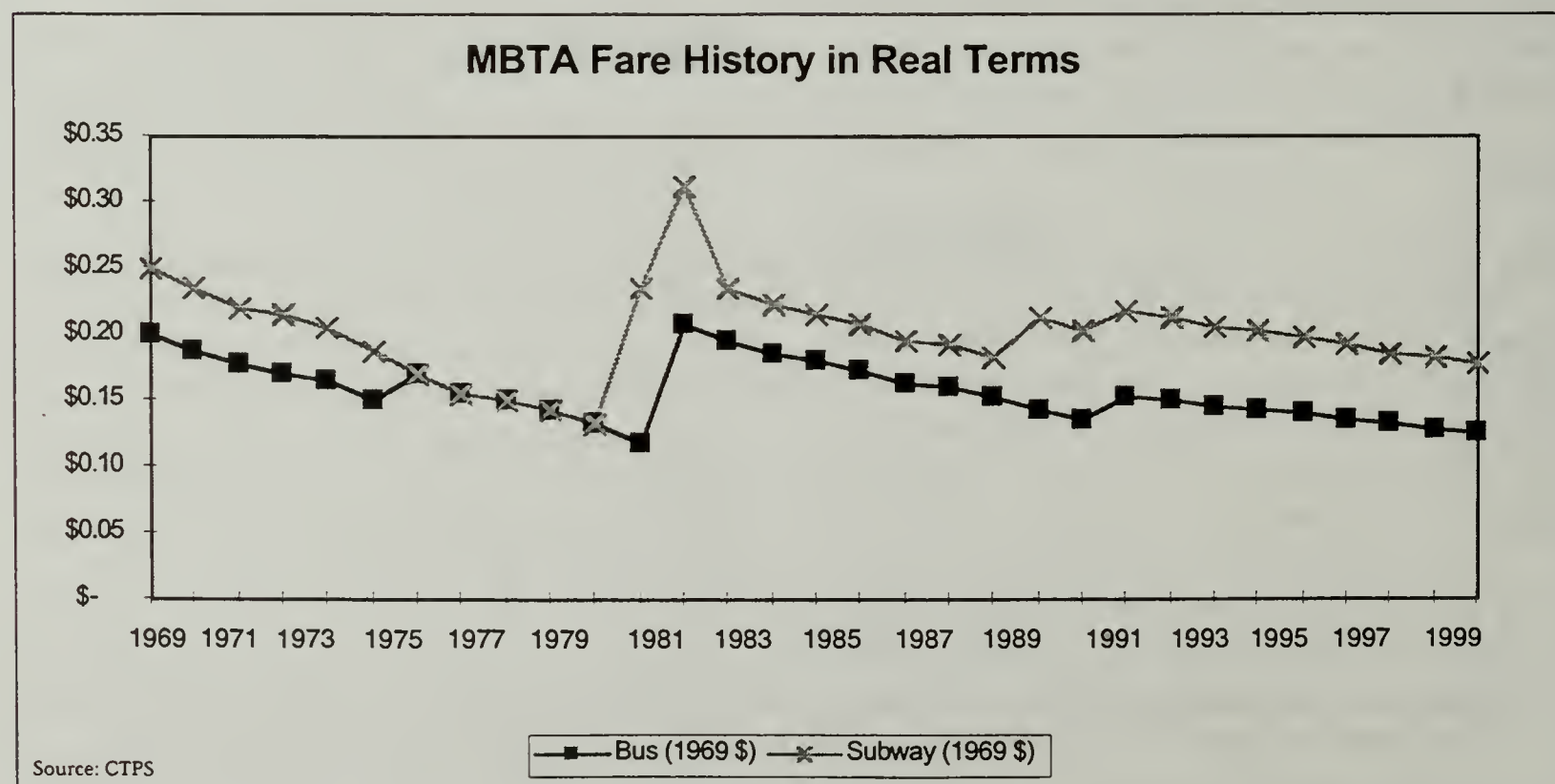
The MBTA estimates its price elasticity at between -.10 and -.30, which means for every 1% increase in fares, ridership loss is at most 0.30% and potentially 0.10%.<sup>3</sup> The difference depends on the type of service (bus is more elastic than subway, and subway more than commuter rail) and the size of the fare increase (higher fare increases or decreases have greater elasticities). These elasticities are lower than those for most transit systems in the country (which are relatively low already), largely due to the MBTA's current low fare levels. The lower the existing fare level, the less sensitive riders will be to fare changes. For example, a 10% increase in an already high fare (say, a move from \$1.50 to \$1.65) will have a greater effect on ridership than a 10% increase in a low fare (\$.50 to \$.55), both because the increase is greater in absolute terms and because more riders have other alternatives available in the higher price range.

The MBTA's low price elasticity explains why the large real term fare decreases of the 1970s had little effect on ridership. Similarly, ridership returned to pre-increase levels within two years following fare increases in 1980-81 and 1989-91. In both cases, economic decline may have had more to do with temporary ridership loss than the fare increases themselves.

## G. Assessments

In 1964, one of the major achievements of the new MBTA was a more equitable assessment system. The new system would objectively weigh both rider and non-rider benefits in a sophisticated formula. An expanded district would ensure the assessment of all communities benefiting from the MBTA, and the formula would utilize the empirical data to guarantee accuracy. The goal was a fair allocation of MBTA losses and incentives to encourage cities and towns to balance their desire for service with the costs of providing that service.

The formula split the assessment into two parts: express service which travels on fixed rights of



<sup>3</sup> MBTA Analysis



way (such as underground subway and commuter rail) and local service which utilizes public roadways (such as bus and trolley). Each service had a portion of its cost allocated based on ridership or utilization, and a portion allocated based on regional benefit. For express service, the formula distributed 25% of costs based on boarding counts at each express station within each town, and 75% of costs based on the number of people from each town who commuted to Boston or Cambridge. For local service, 50% of costs were allocated according to the share of local operating deficits incurred within a community, and 50% were allocated based on population. Given that local service primarily served the inner original 14 communities, the formula calculated the distribution of local operating deficits independently for the inner 14 communities and the outer 64.

The formula recognized that the MBTA benefits both people who ride the MBTA and the region as a whole through cleaner air, less crowded roads, and greater economic development. The ridership portion of the formula sought to capture the benefits riders and their communities obtain by having the use of a subsidized service, a benefit otherwise known as consumer surplus. The theory behind charging communities for consumer surplus is that

most riders would be willing to pay more if they could be charged individually. However, the price must be low enough to entice the socially optimal number of riders, so the riders who value the MBTA more cannot be charged their full value at the token booth. Charging communities by ridership or service provision is a proxy. The regional benefit portion of the assessment assumed that the non-rider benefits of the MBTA accrue relatively evenly by population or number of commuters. The difference between the express and local service apportionments of regional benefit indicate a belief at the time that express service had a higher level of regional benefit.

As with many other aspects of MBTA financing, changing circumstances have rendered the 1964 formula incompatible with its original goals. The expansion of the district purposefully sought to ensure all served communities participated in the assessment process. The expansion of the system beyond the reformulated district defeated that goal. The continuing expansion of parking facilities at MBTA stations invalidates boarding counts as an appropriate measure for community utilization of the system, since the boarders in one town often originate from another.

### Existing MBTA Assessment Formula

<p><b>Express Service</b> - Service that travels on fixed rights of way such as commuter rail and underground subway.</p>		<p><b>Local Service</b> - Service that travels on local streets such as bus (express and local) and trolley.</p>	
<p>75% of costs allocated to each locality in the district based on number of commuters, regardless of the mode of transport. The Boston share of commuters is floored at 30%.</p>	<p>25% of costs allocated to those communities with stations built before July 1, 1973 based on boarding counts. Stations built after July 1, 1973 not counted for assessment purposes.</p>	<p><u>Total Loss of Orig. 14</u></p> <p>50% of costs are allocated based upon population. 50% of costs are allocated by where financial loss was incurred within the original 14 cities and towns.</p>	<p><u>Total Loss of Outer 64</u></p> <p>50% of costs are allocated based upon population. 50% of costs are allocated by where financial loss was incurred within the outer 64 cities and towns.</p>

Piecemeal changes to the formula itself, instigated for reasons unrelated to the goals of the assessment process, have further weakened its effectiveness. The first such change occurred in 1969, when the Legislature changed the definition of commuter from a person who commutes to Boston or Cambridge by any means to a person who commutes to a town other than that of his residence. Since such a rule would benefit Boston, which has a disproportionate number of residents working within the City, the Legislature also mandated that Boston's share of commuters not fall below a floor 30% for assessment purposes. Given the changing demographics of the area, the outcome of this rule is to basically assess all communities by adult population (since few people live in the town in which they work), with the exception Boston, which now has substantially fewer than 30% of the region's commuters.

The next major change in the formula was the exclusion of stations built after July 1, 1973 from boarding counts. As noted, the change resulted from a desire to reconcile community resentment of increasing highway construction with an equally strong community resentment of increasing assessments. The solution introduced a flagrant fallacy into the formula itself, as opposed to the demographic shifts and system expansion, which created unforeseen inequities over time. Ironically, had the Legislature known the next change due for the formula, it may not have needed to remove stations from the boarding counts to address a fear of rising assessments.

Proposition 2 1/2 and its subsequent Legislative manifestations capped assessment growth at 2.5%. Given the overall goal of Proposition 2 1/2 to restrict the major local revenue source, the property tax, to increases of just 2.5%, restricting the mandated outflows of local government to a similar size made intuitive sense. Otherwise, MBTA assessments would in short time grow to encompass the whole of each town's budget. Instead, Proposition 2 1/2

shifted the burden of the growing MBTA deficits onto the State budget.

The outcome of thirty-five years of system expansion, demographic shifts, and legislative alterations is an assessment formula that is based on inaccurate data, does not include all served communities, and is riddled with complications.

Communities' ridership does not seem to correlate to their assessment amounts. While it is true the MBTA provides significant benefits to non-riders, ridership not only indicates usage but also the availability of access to the MBTA. Such access benefits non-riders by providing less congested roads, raising property values for homeowners, and facilitating economic development.

Among the many paradoxes within the formula is the existence of sixteen assessed communities and towns within the district who have no direct service (though they may be close to stations in neighboring towns) and fifty-seven non-assessed communities and towns outside the district who do receive direct service. While assessments for unserved communities are rarely more than 1% of their total budgets, the absolute dollar amount can be as high as \$500,000. Assessments as a percentage of city and town budgets range from 0.63% in Weston to 4.01% in Boston. The average assessment for an inner 14 community is 3.5% as opposed to 1.3% for a community among the outer 64.

The assessment system has suffered from the partial solutions of the past. Failure to reform it will leave a continued point of frustration with MBTA financing on the part of the cities and towns of the district and their legislative delegation. While no solution will be amenable to every city and town, the Governor decided he must use the comprehensive reform of the MBTA financial structure as a whole as an opportunity for assessment reform. Otherwise, the MBTA financial structure will enter the next decade flawed and under attack.

## IV. Recommendations

### A. Amortization of Existing Short-Term Debt and Internal Borrowings

The first step in solving the problems identified above is the conversion of the \$800 million in short-term notes and internal borrowing into long-term amortizing debt and internal obligations. The short-term rolling notes of the MBTA and internal borrowing of the Commonwealth threaten the Commonwealth's credit. The fact that in an atmosphere of stable interest rates and overall fiscal health for the Commonwealth the risk seems remote makes it no less real. If and when it should affect the Commonwealth, it will most likely do so in a time of financial vulnerability when few options are available.

Given the view of the financial community that the notes are part of the Commonwealth's permanent debt structure, replacing them with long-term debt will not immediately change the Commonwealth's debt burden. Over time, however, the amortization of the notes will result in their elimination.

This is not to say the conversion will be costless. As the Alviani report noted in 1990, the difference between long-term interest rates plus amortization of the notes and the current short-term interest rates paid by the Commonwealth will result in an initial negative cash flow.<sup>1</sup> Depending on the amortization schedule for the replacement debt, the net present value of the refunding could even be negative. The Alviani report ran two scenarios, one with ten-year bonds replacing the existing short-term debt and one with incremental concurrent appropriations. This latter approach involved the Commonwealth providing ever increasing appropriations out of the General Fund to gradually pay down the notes. Once the appropriation had retired both the MBTA's

and the Commonwealths notes, it would be available for the MBTA to use to fund current operations. The first scenario did not break even on a net present value basis until the eighteenth year; the second broke even in the seventeenth year.

Nonetheless, the benefits from the elimination of the short-term notes have less to do with interest expense and more to do with risk management. Under the existing arrangement, the Commonwealth bears significant interest rate and market access risk. The Commonwealth's interest rate reflects the current interest rate environment. Current interest rates are low relative to rates in the past twenty years. Nine years ago, short-term rates for the Commonwealth were more than 60% higher than what they are today. Such a rate in the future would raise the notes' interest expense proportionately. Even more important than avoiding such a dramatic increase in interest expense is avoiding a market access crisis. Failure to market the notes could trigger a downgrade of the Commonwealth's debt, the need to drastically cut into the General Fund, and potentially a default. Such an occurrence is most likely when the Commonwealth faces other financial pressures and is least able to draw on other resources. To the extent the Commonwealth is content to bear the risk of interest rate changes, it could achieve short-term interest rates and still avoid market access risk through the use of long-term variable rate debt as the replacement debt.<sup>2</sup>

The Governor proposes issuing twenty-year amortizing bonds in an amount necessary to retire the \$325 million of MBTA notes. The amount borrowed should also provide the MBTA with sufficient liquidity to satisfy its daily cash needs without issuing short-term debt. The Commonwealth should also put in place a twenty-year amortization schedule to eliminate the \$500 million in internal borrowing used to pay the MBTA's cash draws.

<sup>1</sup> Alviani, p. 56

<sup>2</sup> A Financial Restructuring Plan for the Massachusetts Bay Transportation Authority, John Gillespie, Kenneth Potts, and David Kramer, The Pioneer Institute, 1991, p. 20

## B. Dedicated Revenue Source

While retiring the notes and the internal borrowing is important from the financial perspective, the notes are simply a symptom of a dysfunctional funding mechanism. As long as the MBTA receives its State subsidy after it has expended the funds, it will need some sort of short-term funding mechanism to pay its expenses in the interim. If it cannot use notes, then it will rely more heavily on cash advances. Either way, true cost control will be elusive, and the expense of retiring the notes will be for naught as deficits begin to accumulate again. The financial community may view the retirement of the notes as simply an invitation for MBTA to increase its deficits if the retirement does not accompany the implementation of a sound funding mechanism.

As the independent report authored by John Gillespie entitled *Invitation to Change: A Financial Restructuring Plan for the Massachusetts Bay Transportation Authority* noted in 1991, retiring the notes and the State's internal borrowing eases the way to creating a prospective funding mechanism by eliminating the current use of the appropriation. This allows the State funds to flow directly to MBTA operations. What the MBTA would then require is an arrangement that allows it to receive the cash necessary to fund operations within the limits of sound financial management.

The most appropriate source of current financing is a dedicated revenue source. Such a source will allow the MBTA to plan several years into the future. Given the capital intensity of mass transit, a predictable funding mechanism is necessary to sustain investment and maintenance plans. Moreover, a dedicated revenue stream will eliminate the incentives that exist elsewhere in government to build as much into the cost structure as possible to weather bouts of legislative or executive cost cutting. Dedicated funding will also limit the

level of State support, forcing the MBTA to restrain costs or increase revenues to remain solvent.

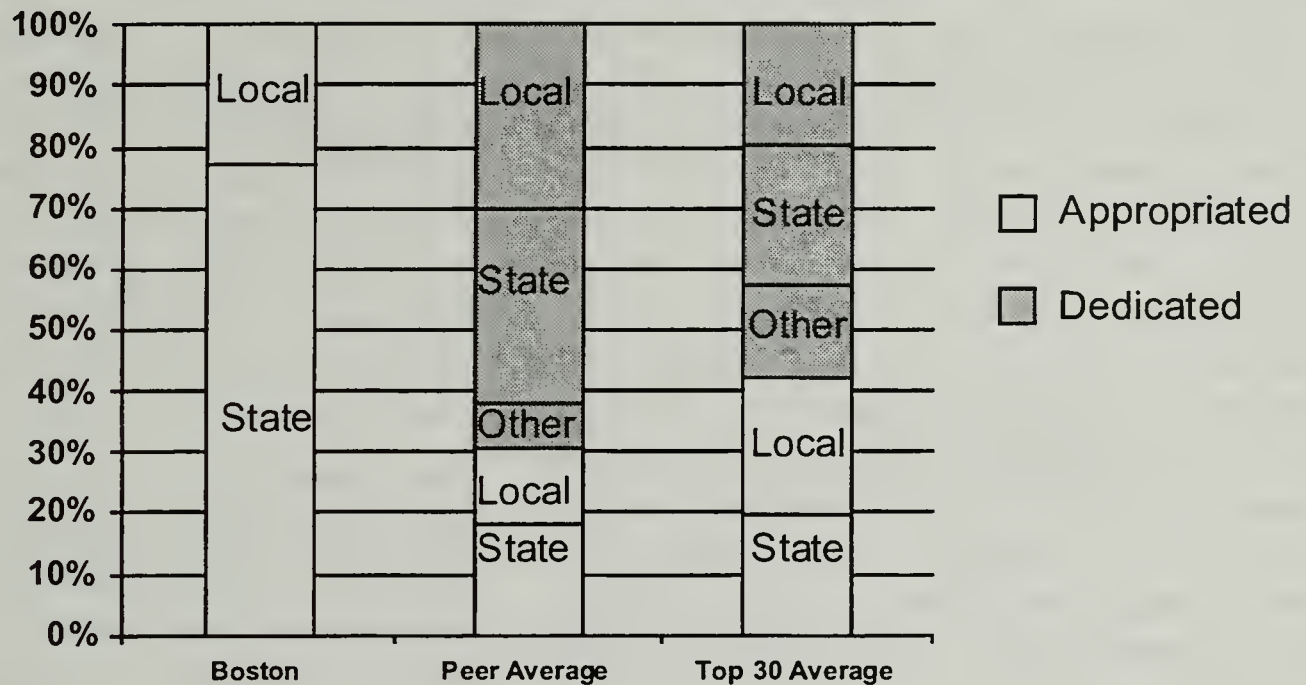
What is a dedicated revenue stream? Local and state transit subsidies come in two forms: dedicated and appropriated. Appropriated subsidies are general revenue funds determined through a government's annual budgeting process. Dedicated subsidies are raised specifically for transit and are allocated at their source. Examples include a portion of the sales or gas tax, parking and motor vehicle fees, and bridge and tunnel tolls. In each case, these revenues would go directly to the transit agency as a matter of law.

### 1. Dedicated Revenue and Other Transit Systems

Data from a group of comparable transit systems<sup>3</sup> indicates the larger the amount of dedicated subsidy, the lower the cost structure. For these reasons, transit systems across the country have uniformly embraced dedicated funding sources as the most appropriate form of state subsidy. In fact, among the top *thirty* transit agencies, only Boston's and Honolulu's do not have a dedicated revenue stream.

<sup>3</sup> For purposes of this analysis, comparable transit systems include the transit systems of Atlanta, Baltimore, Chicago, Cleveland, New Jersey, New York, Philadelphia, and San Francisco, and Washington D.C.

### Transit Subsidies by Source As a Percent of State and Local Subsidies



Source: National Transit Database

Transit agencies use several types of taxes as dedicated revenue sources, including the income, sales, property, and gasoline taxes. They also use joint development taxes and public transit trust funds that draw from bridge, tunnel, and roadway tolls. The most heavily used dedicated revenue source is the sales tax. The reasons for this may vary, but one important characteristic of the sales tax is it rises with inflation and economic activity, two factors that also increase transit agency costs.

### Dedicated Revenue Sources by City

Agency	City	Total Dedicated Tax Sources as a Percent of Non-System Revenue					Total
		Income	Sales	Property	Gasoline	Other	
MARTA	Atlanta		90%				90%
MTA	Baltimore					92%	92%
<b>MBTA</b>	<b>Boston</b>						
CTA & Metra	Chicago		61%			24%	85%
RTA	Cleveland		87%		1%		88%
WMATA	D.C.				4%		4%
DART	Dallas		99%				99%
RTD	Denver		93%				93%
DTS	Honolulu						
Metro	Houston		100%				100%
LACMTA & OCTA	Los Angeles		80%	1%	8%	0%	90%
MDTA	Miami					3%	3%
MCTO	Minneapolis/St. Paul			75%	0%		75%
NJ Transit	New Jersey					21%	21%
NY	New York	11%	6%		9%	25%	51%
SEPTA	Philadelphia					36%	36%
PAT	Pittsburgh					35%	35%
Tri-Met	Portland					95%	95%
AC Transit	Oakland		31%	30%		26%	88%
ACT, BART & Muni	San Francisco	8%	45%	13%		13%	80%
SCCTD	San Jose		93%			3%	95%
Metro & WSDOT	Seattle		43%	44%	7%	2%	96%

Source: National Transit Database

Dedicated Revenue streams give good managers the ability to plan into the future knowing that some portion of their revenue is relatively predictable. Given the significant role of capital investment in transit operations, such planning is important. Without the knowledge of future revenues that dedicated revenue streams provide, transit managers would have difficulty making investment decisions (the MBTA currently solves this problem by dedicating the full faith and credit of the Commonwealth to any MBTA investment). Dedicated revenue streams also impose a level of budget discipline on transit agencies by limiting government support. This has been particularly true among comparable transit systems. Finally, given the near impossibility of funding mass transit from fares alone, a dedicated revenue stream allows a transit agency to be a true independent authority, with its own borrowing capacity. Such arrangements simplify the relationships between transit agencies and government.

The negative aspect of dedicated revenue streams is their sensitivity to economic cycles. San Francisco's, New York's, and Chicago's transit agencies all suffered financial difficulties when dedicated revenue

levels failed to meet expectations. When dedicated revenue levels exceed expectations, transit agencies may feel pressure to spend more than they think prudent, adding to their operating cost base and depleting reserves necessary to weather economic downturns. New York's MTA faced such pressure in the 1980s. Using a revenue stream that correlates to the level of transit demand, such as the sales tax, can help avoid revenue shortfalls. Issuing debt as a stand-alone credit backed only by authority revenues also encourages the maintenance of sufficient reserves, which enhance credit quality.

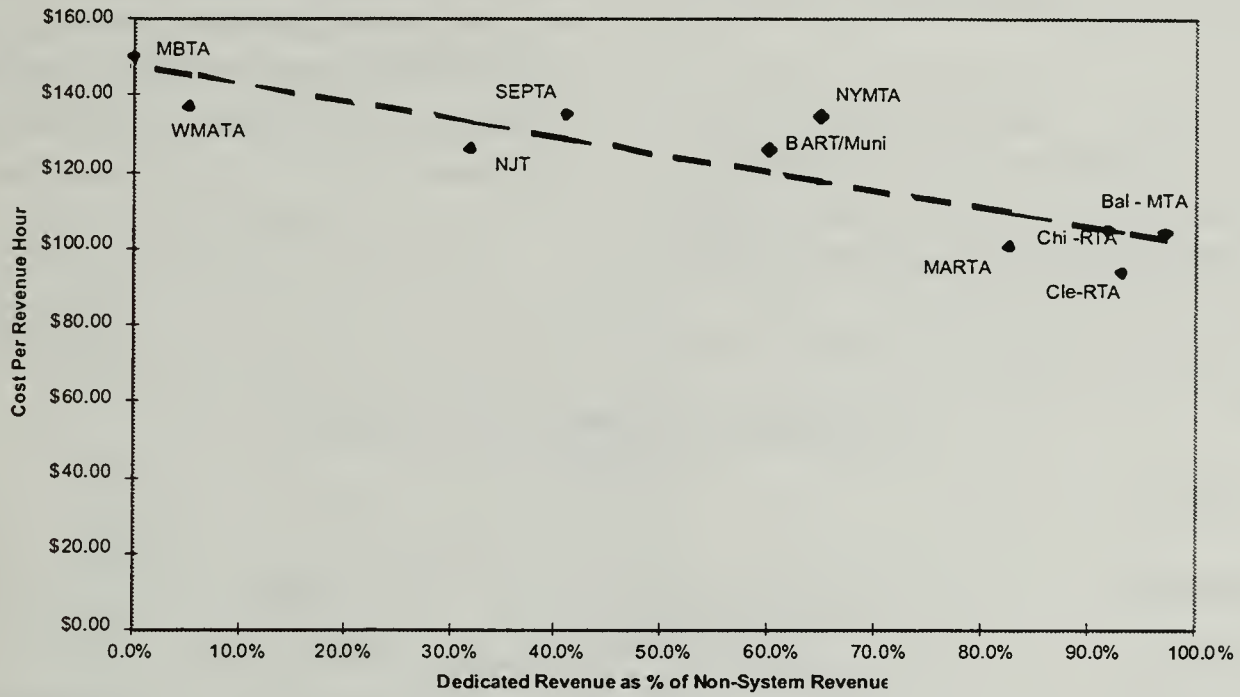
The experience with dedicated revenue streams among comparable transit systems supports the prevalence of their benefits. Costs have largely remained under control, and financial pressures, often brought on by economic downturns, have been overcome through a combination of cost control, revenue enhancements, and service adjustments. Rarely has the state or city needed to expand the dedicated revenue source dramatically. The two agencies with the least amount of dedicated revenue, Philadelphia's and New Jersey's, have had the most intractable financial problems.

### History of Dedicated Revenue by MBTA Peer

City	Agency	Amount of Subsidy Dedicated	Year Dedicated Revenue Began	History
Baltimore	MTA	92%	1971	State subsidy comes from transportation trust fund and allocated at discretion of Department of Transportation. Trust fund taxes adjusted about once every 5 years.
Chicago	CTA, Metra	85%	1974	Costs outpaced inflation until 1983, when the dedicated revenue structure was augmented by a required fare recovery ratio. Costs have held steady since. In 1990 definition of fare broadened to include fare subsidies.
Cleveland	RTA	88%	1975	Costs have kept pace with inflation, but not exceeded it. Fares have risen relative to inflation.
New Jersey	NJ Transit	21%	1984	Throughout 1970's subsidies increased dramatically. During 1980s several legislative attempts to restructure NJ Transit occurred.
New York	MTA, LIRR, MetroNorth, NYCDOT, NYCTA	51%	1968	Original dedicated source was bridge and tunnel tolls. In 1981, source broadened. Financial difficulties occurred in late 1980s due to area recession; system responded with fare increases.
Philadelphia	SEPTA	36%	1991	Throughout 1970s system had unfunded deficits. In 1980 performance measures mandated, but problems continued. In 1991, public transit assistance fund created.
San Francisco	BART, Muni	80%	1971	Costs have held steady relative to inflation over last thirty years. Dedicated revenue sources have received occasional adjustments.

Statistically, dedicated revenue streams have helped transit systems increase their productivity. Comparing the percentage of subsidy from dedicated sources with the operating expenses per revenue hour demonstrates the correlation between a higher percentage of dedicated revenue and a lower cost structure.

**Dedicated Revenue % of Non-System Revenue Vs. Operating Expense Per Revenue Hour (1997)**



Source: National Transit Database

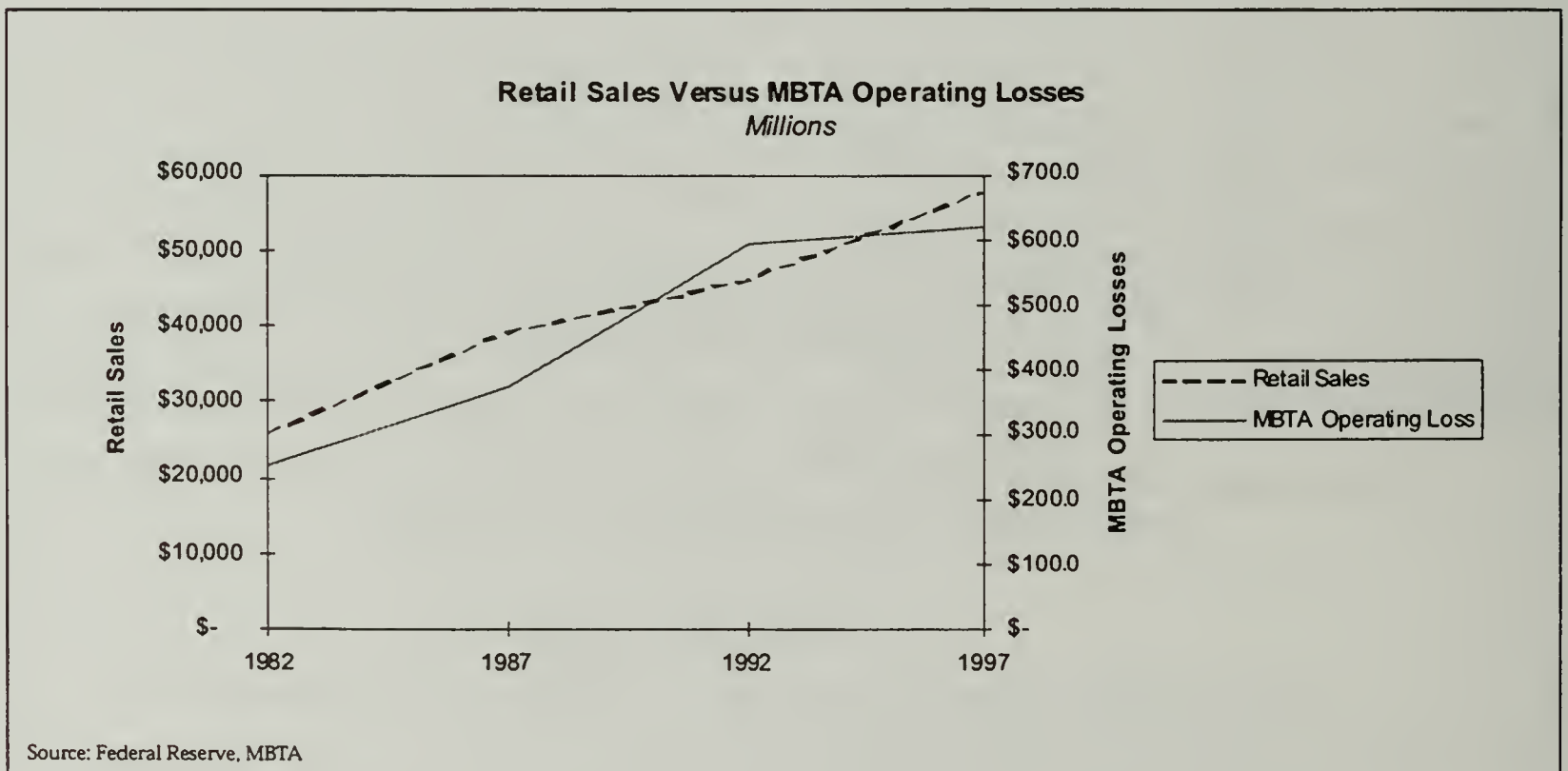
## 2. The Dedicated Revenue Source

The Governor proposed using 20% of the regular and motor vehicle sales tax as the Dedicated Revenue source for the MBTA. In Fiscal Year 2000, the amount raised is projected to be \$594 million, compared to the \$578 million in State subsidy the Legislature would have appropriated had the MBTA not had a one-time lease-leaseback savings of \$23 million.

The sales tax has two advantages: it correlates closely to economic activity as does the MBTA's demand for service, and it is generated to a large extent by the economic activity the MBTA facili-

tates. The MBTA provides businesses with broader labor and consumer markets. Without the MBTA, the sales tax would be significantly lower. The popularity of the sales tax among other transit agencies as a dedicated revenue source testifies to its suitability.

The fact that this is a statewide tax supporting a regional transit system should not disqualify it as the dedicated revenue stream, since Eastern Massachusetts provides the vast majority of sales tax revenue.



## C. Stand-Alone MBTA Credit

Retiring the Notes and implementing a prospective funding mechanism for operations still leaves in place a complicated financial relationship between the Commonwealth and the MBTA. Without further changes, the MBTA would still borrow long-term using the Commonwealth's credit, even though its capital spending is outside the

Commonwealth's capital budgeting process. The capital markets would still need to analyze the Commonwealth as a whole to assess MBTA debt and understand the MBTA to assess the Commonwealth's debt. Doing so adds costs to both entities' borrowing.



Once the MBTA has a dedicated revenue source, it will be able to issue debt without a Commonwealth guaranty. Having the MBTA borrow on its own account should reduce borrowing costs for both the MBTA and the Commonwealth by eliminating confusion in the capital markets. The clearer demarcation of credit obligations will benefit the Commonwealth and the MBTA. Forcing the MBTA to borrow on its own account will also introduce a powerful incentive for sound management - the judgment of the debt markets and rating agency monitors.

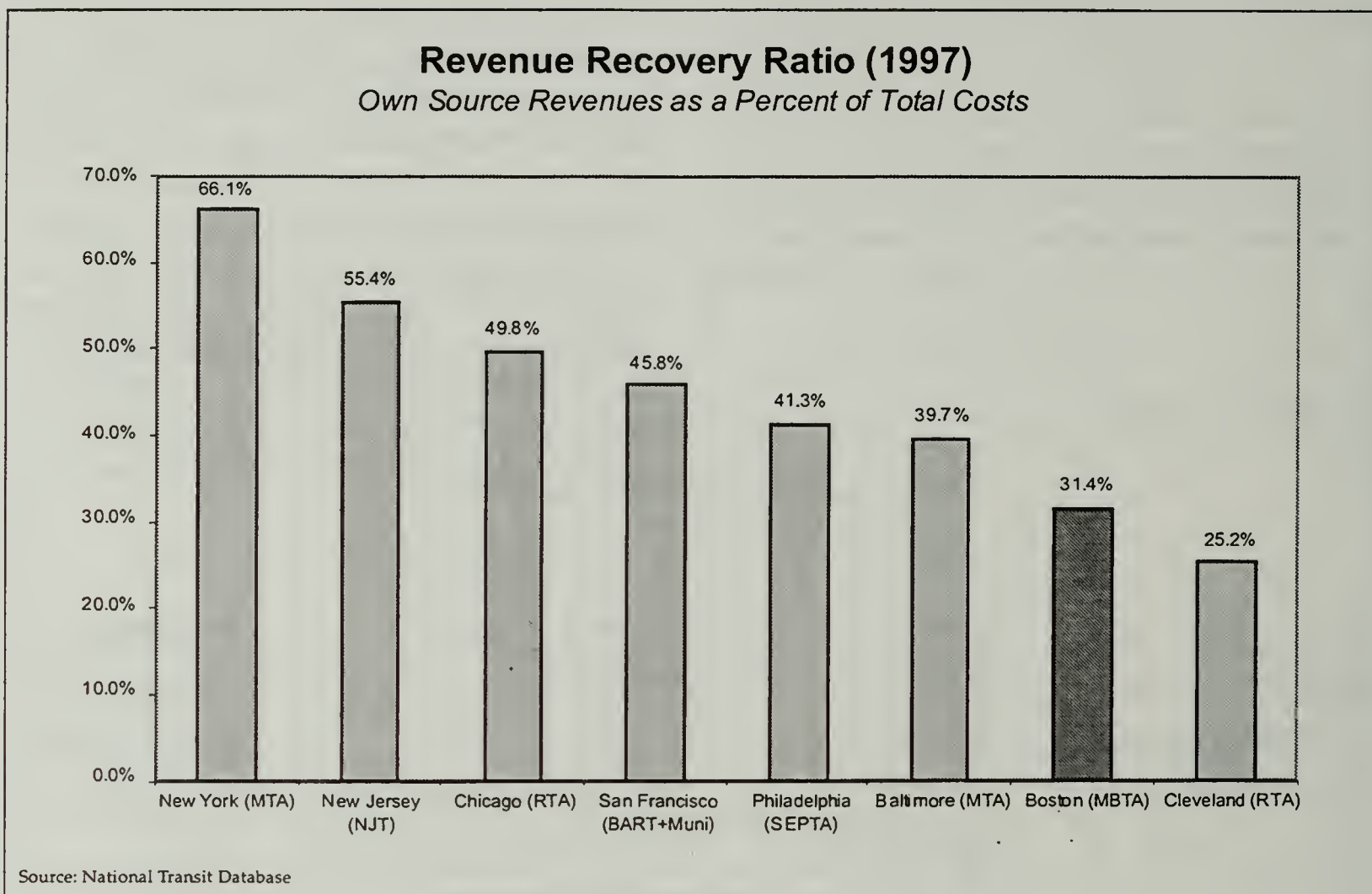
Most other transit agencies have successfully established their own credits, achieving high ratings as a result. Among similarly sized systems, the MBTA is unique in its use of state general obligation debt. All other comparable systems issue debt guaranteed by their various revenue streams. In some cases, the rating on this debt exceeds that of the State or City in which the agency is located. For instance, New York's MTA receives an Aa3 rating from Moody's Investor Service on the debt it issues supported by its share of toll revenues. New York State has only an A2 rating. Similarly, San Francisco's BART General Obligation Bond has a higher rating than the State of California. Below is a table indicating the rating of comparable transit systems compared to their states:

Issuer	Rating	Dedicated Revenues	State Rating
BART (San Francisco)	Aa2/AA	Agency G.O.	Aa3/AA-/AA-
BART (San Francisco)	Aa3/AA-/AA	Sales Tax	Aa3/AA-/AA-
MDOT (Baltimore)	Aa2/AA/AA	Tolls, Gas Tax, Excise Tax, etc.	Aaa/AAA
MTA(New York)	Baa1/BBB+/A-	Transit Revenue and Subsidies	A2/A
NJTTF (New Jersey)	Aa2/AA-/AA	System Revenue	Aa1/AA+/AA+
RTA (Cleveland)	A3 (Moody's only)	Agency G.O.	Aa1/AA+/AA+
RTA (Chicago)	A1/A+	Sales Tax Revenue	Aa2/AA/AA
SEPTA (Philadelphia)	Aa (Moody's only)	Agency G.O.	Aa3/NR/AA-
SEPTA (Philadelphia)	A3/A	Fares	Aa3/NR/AA-
TBTA (New York)	Aa3/A+/AA	Tolls	A2/A

Source: Lehman Bros.

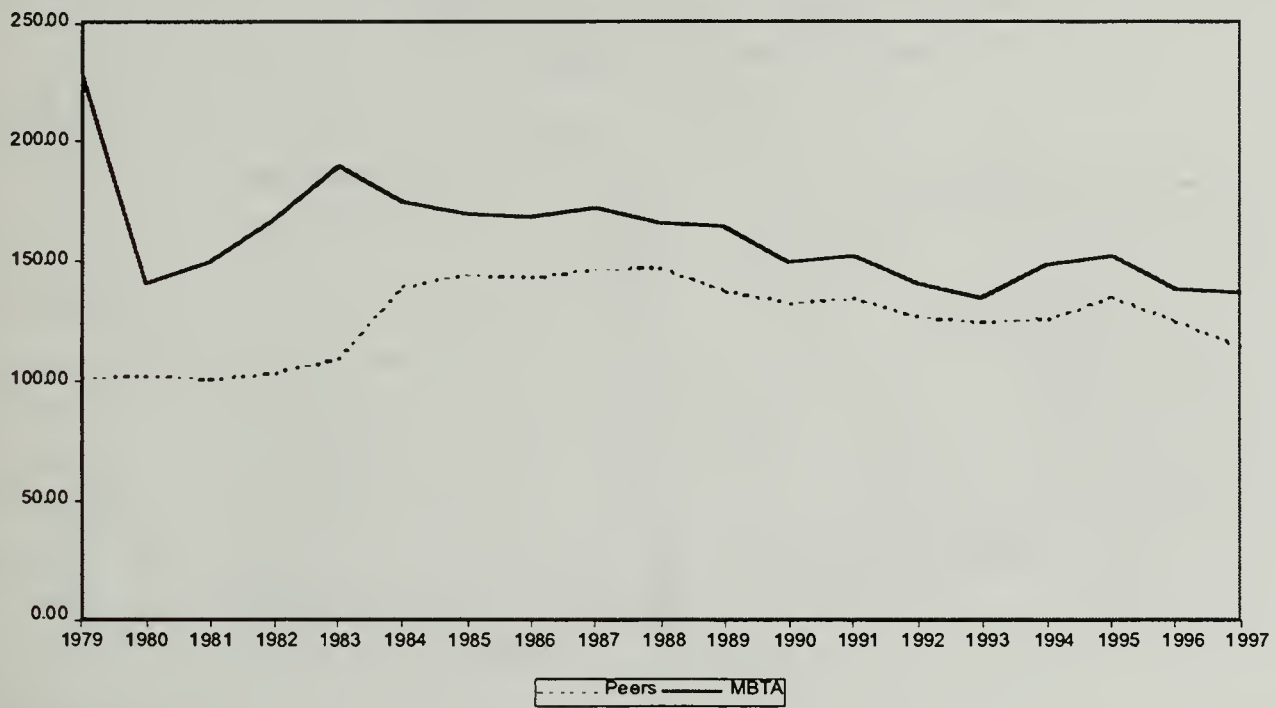
## D. Reasonable Fare Recovery

Most striking among the comparisons between the MBTA, comparable transit systems, and the top thirty transit agencies is the MBTA's low revenue recovery ratio.



Part of the problem is MBTA costs are higher than those of comparable systems, even though the MBTA has consistently reduced unit costs during the last fifteen years of available data (the MBTA is one of only two comparable systems to do so, with a reduction in costs of 30% compared to a reduction by San Francisco's transit system of 2%).

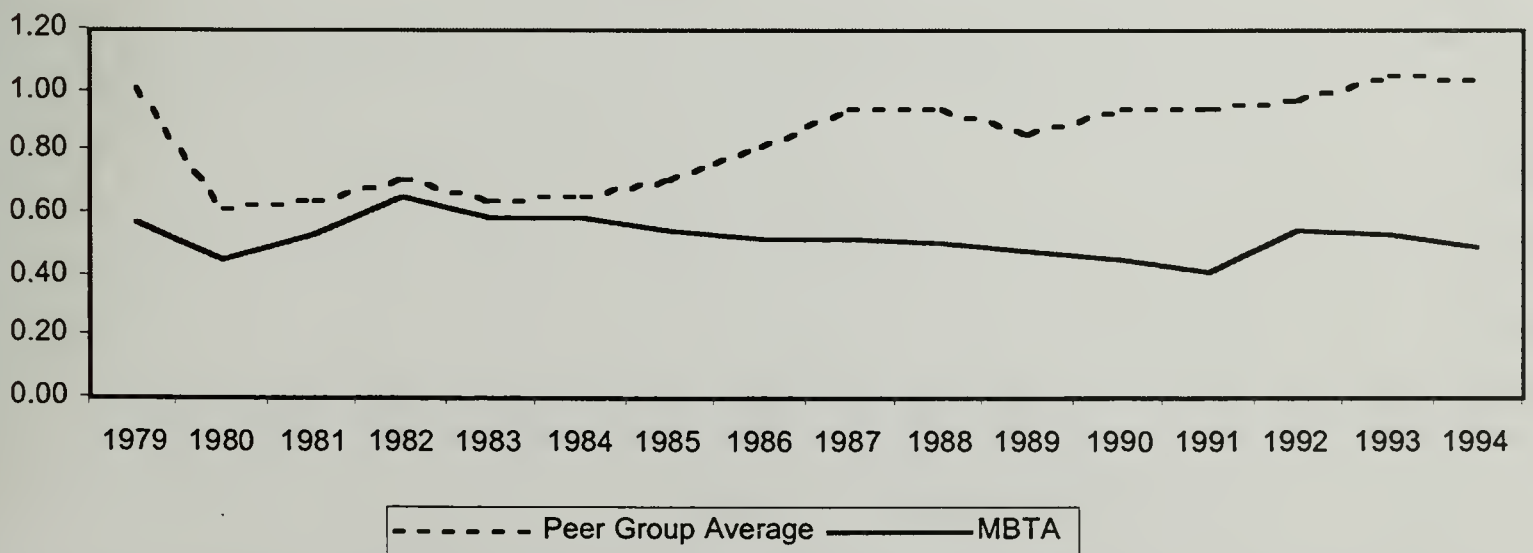
### Expense Per Revenue Hour *Inflation Adjusted*



Source: National Transit Database

Moreover, as the graph below illustrates, the MBTA fares have fallen in real terms since 1982, despite a period of relatively low inflation. By comparison, the group of comparable systems as a whole has increased fares overall, and increased them significantly since 1982. Some systems increased fares by as much as 130%, and only New York City's transit systems reduced real fares during the same period.

### Fare Revenue Per Trip *Inflation Adjusted*

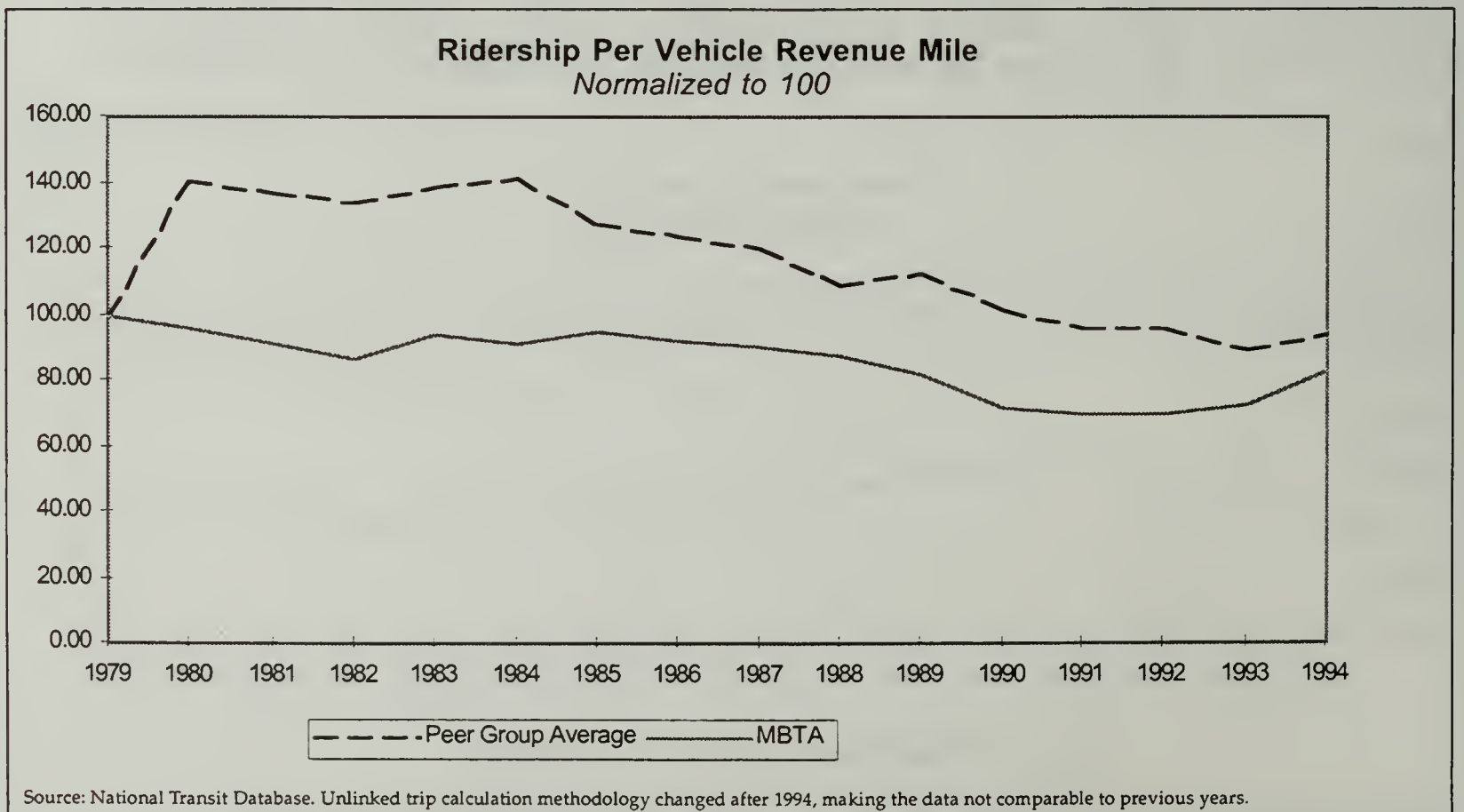


Source: National Transit Database. Unlinked trip calculation methodology changed after 1994, making the data not comparable to previous years.

A comparison of base subway and bus fares further dramatizes the MBTA's low fares.

Major Transit Agency Base Fares <sup>1</sup>		
Minimum Adult Base Fares		
	Subway	Bus
Philadelphia (SEPTA)	\$1.60	\$1.60
Atlanta (MARTA)	\$1.50	\$1.50
Chicago (CTA)	\$1.50	\$1.50
New York (NYCTA)	\$1.50	\$1.50
Cleveland (RTA)	\$1.50	\$1.25
Baltimore (MTA)	\$1.35	\$1.35
Miami (MDTA)	\$1.25	\$1.25
Washington (WMATA)*	\$1.10	\$1.10
San Francisco (BART, Muni)*	\$1.10	\$1.00
<b>Boston (MBTA)</b>	<b>\$0.85</b>	<b>\$0.60</b>

Given the MBTA's real terms fare decreases and its far lower fare levels relative to its peers, one might think the MBTA's ridership per vehicle mile served would have increased, at least relative to comparable systems. In fact, the MBTA's ridership per vehicle mile has fallen 17% in the last twenty years.



<sup>1</sup> Based on 1998 Association of Public Transit Authorities Survey

\* Fares may exceed these levels due to zone and distance pricing

## **E. Assessment Reduction and Simplification**

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The Governor has recommended eliminating the existing assessment structure, and replacing it with a simpler, less costly alternative. The old assessment system should transition to a new structure based on population, weighted to account for distance from the MBTA system's core.

The new assessment structure will eliminate the complicated and inaccurate formula that caused much dissatisfaction with the current system. It will also be easily understandable. Basing assessments on population appropriately recognizes that all communities within the MBTA service area benefit from the system, with those at the system's core benefiting the most.

Massachusetts residents outside the MBTA's service area might complain that with a limited local assessment for district communities, unserved communities bear an undue portion of the MBTA burden. However, under this proposal, the total State share of the MBTA's costs will also be limited. Without financial restructuring, the Commonwealth liability for the MBTA is unbounded. Other systems, such as Baltimore's, have no local funding mechanism. Moreover, no assessment system can meet the equity needs of every community. In attempting to construct such a system, the Commonwealth has created a complicated structure that is equitable to nobody.

## V. Conclusion

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This proposal fulfills the objectives of the Governor. It will end the threat to the Commonwealth's financial well-being posed by the MBTA's large short-term borrowing. By replacing the MBTA's convoluted subsidy system with a dedicated revenue stream, it will create stronger incentives for budget discipline, system rationalization, and a balance of investment and operating needs. By forcing the MBTA to maintain its own credit, it will reinforce those incentives and further simplify the MBTA's relationship to the Commonwealth. This should result in lower borrowing costs for both the Commonwealth and the MBTA. Finally, by reforming the assessment process, the proposal more fairly and simply allocates the financial burden of operations.



